



FLIGHT

&
 The AIRCRAFT
 ENGINEER.



First Aero Weekly in the World.

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EDITORIAL COMMENT.

"Newspapers are an essential part of our war organisation."—
(Sir Auckland Geddes, Minister of National Service.)



WE understand that it has been decided to make a change in the uniform of the officers of the R.A.F. No official announcement has so far been made, but it is expected that an order will be issued very shortly, defining the alterations decided upon.

The present khaki dress is to be abolished and a new uniform adopted of "horizon blue" or some colour very closely approaching it. Needless to say, the prospect is not viewed with any particular satisfaction by those officers of the Royal Air Force who have already obtained the present pattern of uniform, especially as no hint has been given up to the present that any grant is to be made for the new dress.

So far as the change itself is concerned—assuming that we have not been misinformed as to the official intention—we must say we are in favour of it. The present uniform approaches too closely the service dress of the Army, and the man in the street is to be pardoned if he is unable to differentiate between

officers of the R.A.F. and those of the Army. That is not, to our way of thinking, at all a desirable state of things. Our readers will remember that it was this journal which for long enough before the decision of the Government to separate the Air Services from the Naval and Military Forces, insisted upon the formula of "One Air Service, One Uniform, One Badge." It is true that the uniform of the most junior service differs in detail from that of the Army, while it has nothing at all in common with that of the Navy, but it is most certainly not distinctive enough to at once inform the passer-by that the officer he is meeting belongs to the Air Service. What is wanted is a dress which is different enough in colour or in pattern to render mistake impossible. No one could mistake a soldier for a naval officer, nor should anyone be able to mistake the flying officer for either. On general grounds, therefore, we approve of the coming change. But it does seem that once again someone has made an initial blunder which is going to cost the country—or the officers affected by the change—a good deal of money. It ought to have been clear the moment the present hybrid dress was submitted that it would not be satisfactory. Moreover, we believe it was settled at the start that the ordinary dress of the R.A.F. was to be "horizon blue" or French grey. There is nothing against the colour for active service. The French armies have worn it since the war was six months old and it has proved perfectly satisfactory both as regards visibility and what may be called dirt-proofness, so that with this experience to go upon the decision might just as well have been taken at the start and officers of the Force put into the uniform they are now apparently to be called upon to wear. However, the thing has been done and the mistake—for it was a mistake—is to be set right. We trust that the expense of the change is not to fall upon the officers, who in perfect good faith, have fitted themselves out with the present uniform. The cost should certainly be a charge on Royal Air Force funds

Honours and Yet More Honours.

Still the shower of honours descends upon worthy and unworthy unlike, not like the "gentle dew from Heaven" of which the poet sings, but in a veritable deluge. It is to be supposed that the recipients like it, otherwise they would exercise the right of the free citizen and refuse to be bracketed with the *hoi polloi* of which the recent "honours

lists" mostly consist. But why some of the people who accept these gauds can with equanimity see their names cheek by jowl in the *London Gazette* with those of others who notoriously have nothing to recommend them for distinction—some even much the reverse—beyond more than their fair share of pushfulness, passes the comprehension of the plain, every-day sort of person who is content to go his ways unseeking ribbons and crosses. The lists of those appointed to the new Order of the British Empire have added more to the gaiety of the nation than the revues of the last half-dozen years. Since it was instituted a few months ago more than six thousand names have figured in the lists of the various classes, and so varied and peculiar have the appointments been that it has become a huge joke. Even the House of Commons has ceased to take it seriously, as witness the questions to which Mr. Brace was called upon to answer last week and the caustic comments which followed. Probably the unkindest of all was the question put by Mr. Holt, who asked: "If the Right Hon. gentleman would consider the advisability of having these men organised into a special, complete and homogeneous division of the British Army?" And, really, when one regards the fact that probably seven-tenths of the names of the decorated ones are those of men well within the present military age who have received their "honour" for very little indeed, there is more merit in the question than is apparent at first sight. Mr. P. A. Harris, too, was the reverse of kind when, in seeking to know if there was any limit to the numbers to be appointed to the Order, he suggested 47,000 as quite a desirable figure to fix. Once again the idea has something to commend it.

Seriously, however, this matter of the wholesale award of decorations for "war service" has assumed the dimensions of a scandal. We do not suggest for a moment that it is only necessary for one engaged upon war work to drop a hint in the right quarter for the decoration to come along automatically, but that impression is certainly abroad in the land and it does no good. When it is said, as it is sometimes satirically asserted, that the usual way to get a Something B.E. is to apply at the local Labour Exchange the thing has become a travesty. The worst aspect of it is that it so gravely discounts the value of those honours which are really awarded for some real service to the State, because people get into the way of classing them all together. Certainly the Prime Minister of the time rendered no greater disservice to the deserving of real honours than when he advised His Majesty to create the new Order of the British Empire. However, it may be that now people really appraise it at its real value and recognise that it is, after all, the only one that is distributed from a hat, as it were, they may be able to differentiate between the real and the pinchbeck.

The Tyranny of the Bureaucracy.

Last February a Committee was appointed to enquire into the new bureaucracy which has been such a malignant growth of war-time. This Committee has just issued an interim report, which will repay reading by all who view the growth of the octopus-tentacles of the new Government Departments with the inevitable apprehension with which the thinking person regards it. As to that growth, nobody, according to the report, seems to know how

it has all happened. Nobody knows to a few thousands how many Government employees there are in the country; how or by whom they have been engaged; what they are paid; or what their precise sphere of usefulness to the State may be. Each of the new Departments seems to have been a law unto itself. The Civil Service Commission, which should act as a central recruiting agency for the whole has been almost completely ignored, and competition has raged among the Departments to get people into their hotels irrespective of qualifications or even of the need for an increased staff. Nepotism has been rife and people have been pushed into jobs for no other reason than that they have had friends with jobs in their gift.

The state of affairs disclosed by the report is bad enough, even though it is no worse than those who have had, for one reason or another, to follow the working of the fell system have long since realised, but it would not be so bad if there were not the post-war future to think about. We might be willing to agree that the great emergency into which the war plunged us justified extraordinary methods which were bound to bring a certain number of abuses in their train. We might even be content to regard those very abuses as a blessing in disguise if they could be discarded when the war is won and the world envisages peace once again. But as we have said week in and week out for years past when writing on the abuses of the bureaucracy, the prospects of getting rid of the incubus after the war are worse than the present infliction itself. We shall literally have a new war on our hands with its objective the ridding ourselves of the Jacks-in-office who will want to continue the ordering of our comings and goings. The task will be as difficult as that advanced by the American farmer who, being dunned for payment of a bill, told his creditor that getting money out of him would be like trying to push butter down a wild cat's throat with a red-hot awl. Every bureaucrat of them all will fight tooth and nail to keep his job and, knowing that all must either sink or swim together, every one will support his neighbour in the effort to remain afloat. There need be no mistake about it. Having tasted the power and sweets of office, the horde of parasites will stick as tightly as—as parasites, and the country will need all the determination at its command to get rid of the influence of the new bureaucracy which, if it is allowed to exist a moment longer than the necessities of war require, will exercise a blighting influence over the whole of our commercial, industrial and even our social life.

Criticism in War Time.

In the *Times* recently there have appeared certain letters relative to criticism of the Government and its actions during war. Mr. Joynson-Hicks has joined in the correspondence to point out that there are two kinds of criticisms. There is criticism of the war tending to limit our successes in the field or to cripple the energies of our soldiers—criticism, in fact, such as comes from the little but noisy group of pacifists. Such criticism is not only unpatriotic, but absolutely traitorous and there can be no two opinions as to what should be done with those who voice this brand of criticism. But, on the other hand, there is a kind of criticism which is directed to increased efficiency in Government de-

partments which, unless the whole machine of government is to lapse into somnolence is not only legitimate but absolutely essential. Mr. Joynson Hicks instances the three subjects upon which most criticism has been directed—the improvement of the Air Services, the more stringent control of enemy aliens in our midst, and the gross extravagance of the great spending departments. As he says, practically the whole of the Press and 90 per cent, of the people support the critics on these subjects. Yet, so averse is the Government to criticism that it pursues the habit of turning all discussion on these matters in Parliament into a question of confidence in the administration. And, he asks, why should this be? We believe in the Prime Minister as the man who can by his energy and determination keep the Allies together and win the war, but he cannot do everything. What the country wants is to leave Mr. Lloyd George to win the war and to leave the critics to keep his departmental chiefs up to the mark. To suggest that every attempt to improve by useful criticism a department is an expression of want of confidence in the Prime Minister is not merely ridiculous, but is a deliberate attempt on the part of the governmental machine to protect the wrongdoer, to prolong the war, and to injure the Commonwealth.

In general terms we are very much inclined to agree with Mr. Joynson Hicks though we scarcely endorse the use of the word "deliberate" in the connection, especially with reference to the prolongation of the war. Protection of the wrongdoer—and particularly of the hopelessly incompetent—there certainly is, with consequent injury to the Commonwealth and indirect prolongation of the war, but even we do not think so badly of our politicians as a whole as to believe that they would wilfully and for their own

advantage lengthen the war by a day. But so far as concerns the restiveness of the departments under fair and legitimate criticism there is no room for more than one opinion. When the war is over and the time comes for the discourse of the way in which the censorship, imposed and suffered for quite other purposes, has been used to screen the lapses and the incompetence of persons and departments, the public will of a surety demand that there shall be heads in the basket. No one desires for a moment to publish information which could be of the slightest use to the enemy and, so long as the censorship is directed to the suppression of news or information which could convey that, we are not only willing but anxious that it should be applied. When, however, use is made of it to shield officials and departments from proper criticism of their incompetence it becomes a bureaucratic abuse of power given for another purpose.

Where the censorship cannot be invoked, as where incompetence is made the subject of inquiries in Parliament, another method of staving off evil consequences is too often adopted, in the shape of questioning whether or not the House retains confidence, not in the administration as such, but in the Prime Minister. Naturally, neither the House nor the country has any wish to embarrass the Government in its prosecution of the war and the matter is thereupon dropped and the individual or the department escapes for the time being. But the game is getting worn out—it will not work for ever and the sooner Mr. Lloyd George begins to realise that his own personality is being exploited to stifle legitimate criticism of departmental methods the more likely he is to be left to guide the destinies of the war unhampered by the feeling of want of complete confidence in his administration.

Control of Hydrogen.

THE Admiralty have ordered that until further notice the manufacture, sale, and supply of compressed hydrogen in the United Kingdom shall be regulated in accordance with such directions as may from time to time be given by the Deputy Controller for Armament Production, Admiralty.

No person or company manufacturing or supplying compressed hydrogen shall sell or supply it otherwise than to such persons or companies and in such quantities as the Deputy Controller shall direct. All persons and companies manufacturing or supplying free or compressed hydrogen for sale or for their own use or as a by-product are required to furnish the particulars specified in the schedule to the Order before June 25th, and shall render such returns as the Deputy Controller shall direct.

Finance at the Air Ministry.

It is stated that Sir Arthur Roberts, whose resignation as honorary adviser to the Financial Department of the Air Ministry was announced on April 25th, has returned to the Ministry, in the honorary capacity of chief auditor of works accounts.

The Royal Air Force Decorations.

It is officially stated that the colours of the ribbons of the new Air Force decorations and medals are as follows:—

Distinguished Flying Cross.—Purple and white.

Air Force Cross.—Red and white.

The colours will be arranged in horizontal bars one-eighth of an inch deep.

Distinguished Flying Medal.—Purple and white.

Air Force Medal.—Red and white.

The colours will be in horizontal bars one-sixteenth of an inch deep.

The ribbon (of corded silk) will in all cases be worn so as to show a coloured band at the top.

"X 97" Raid (June 17th).

THE following *communiqué* was issued by the General Officer Commanding-in-Chief the Forces in Great Britain at 3.15 p.m. on June 17th:—

A hostile aeroplane crossed the Kent coast shortly after mid-day to-day. It was fired at by the anti-aircraft defences, and made out to sea immediately."

"FLIGHT" WILL BE OBTAINABLE BY ORDERING ONLY AFTER THIS WEEK.

WARNING TO READERS.—As has been foreshadowed for some time, greater official restrictions upon the sale of papers have become necessary, and after this week newspapers will not be permitted to be distributed under the scheme known as "Sale or Return." This means that those readers who wish to receive "FLIGHT" regularly, must place a definite order with their bookstall or newsagent for a copy to be reserved, or, as the only alternative, send an order to the Publishing Office, 36, Great Queen Street, Kingsway, W.C. 2, for "FLIGHT" to be sent each week by post. The direct subscription, by P.O.O. or Cheque, is as follows:—

	3 months.	6 months.	12 months.
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Abroad ..	8 3	16 6	33 0

The above is imperative as from this week if you wish to get "FLIGHT" each week.

HONOURS.

Awards for Work at Salonica.

THE King has been pleased, on the occasion of His Majesty's Birthday, to approve of the following reward for distinguished service in connection with the military operations at Salonica, dated June 3rd:—

To be Brevet Major.

Capt. (T. Major) A. Cleghorn, R.E. and R.A.F.

"Mentioned" for Work at Salonica.

INCLUDED in the list of officers and men brought to the notice of the Secretary of State for War by Lieut.-Gen. Sir G. F. Milne, K.C.B., D.S.O., Commander-in-Chief, British Salonica Force, for gallant conduct and distinguished services during the period from September 21st, 1917, to February 28th, 1918, are the following:—

Royal Air Force.

Lieut. C. Booth (formerly Gen. List); Lieut. P. A. A. Boss (formerly Gen. List); Major J. O. Davis, M.C. (formerly Gen. List); Lieut.-Col. G. W. P. Dawes, D.S.O. (formerly R. Berks Regt.); Temp. Observer Sub-Lieut. C. N. Ellen; Capt. G. D. Gardner, M.C. (formerly York. Regt., T.F.); 2nd Lieut. H. J. Gates, (formerly E. Kent Regt.); Lieut. G. E. Gibbs, M.C. (formerly Gen. List); Lieut. (temp. Capt.) C. H. Gimmingham, R.F.C. (died of wounds); Lieut. and Hon. Capt. M. Hodge (formerly R.F.C., S.R.); 2nd Lieut. J. S. Jones, M.C. (formerly R.G.A., S.R.); Lieut. (temp. Capt.) W. R. B. McBain, M.C. (formerly R.F.A., T.F.); Lieut. H. Riley (formerly Gen. List); Lieut. (temp. Capt.) F. G. Saunders, M.C. (formerly Gen. List); Capt. C. H. Smith (R. of O., R.F.A.), att'd. R.A.F.; Lieut. F. D. Travers (formerly Herts. Yeo., T.F.).

3751 Sergt. A. Dawe; 5519 Flight-Sergt. H. F. Ewell; 8457 Flight-Sergt. W. H. Finch; 45039 1st A.M. (A.-Corpl.) F. T. Griggs; 43618 2nd A.M. J. W. Guerin; 29991 Sergt. W. L. Reeve; 7697 Flight-Sergt. W. Shepherd; 5650 Sergt. R. Sprot; 4388 Corpl. J. C. Steadman; 21631 2nd A.M. E. Wilkinson; 4705 Sergt. T. E. Williams.

"Mentioned" for Work in Palestine.

THE following are included in a list of officers and men whose names have been brought to the notice of the Secretary of State for War by General Sir E. H. H. Allenby, G.C.M.G., K.C.B., Commanding-in-chief, Egyptian Expeditionary Force, for distinguished and gallant services and devotion to duty:—

Royal Air Force.

Capt. W. B. Adams; Capt. (T. Major) J. O. Archer (formerly R.F.A., S.R.); Capt. (Hon. Major) W. R. G. Atkins (formerly R.F.C., S.R.); Lieut. (T. Capt.) A. H. S. Baker; Major (T. Lieut.-Col.) A. C. Boddam-Whetham (formerly Lieut., R. of O., A. and S. Highrs.); Lieut. (T. Capt.) F. G. Brown (formerly R.F.A.); Lieut. T. Chilton (formerly R.F.A.); Lieut. (T. Capt.) H. P. S. Clogstoun (formerly R.F.C., S.R.); Capt. (T. Major) E. E. Clarke; Lieut. H. R. P. Collett; 2nd Lieut. (Hon. Lieut.) K. A. C. Creswell (formerly R.F.C., S.R.); Capt. W. G. M. Crothers (formerly Suffolk Regt.); Lieut. Ian Cullen (formerly Yeo.); Lieut. F. F. Dutton, M.C. (formerly Cheshire Regt.); Lieut. (A. Capt.) P. G. Du Val (formerly London Regt.); Lieut. G. M. Eiloart; Lieut. W. T. Fraser (formerly R.F.A.); Major (T. Lieut.-Col.) N. Goldsmith (formerly R.A.); Lieut. C. E. V. Graham, M.C. (formerly R.F.A.); Capt. A. Graves (formerly R.E.); Lieut. A. R. Gurney (formerly M.G.C.); Capt. (T. Major) N. M. Halcombe (formerly R.E.); Lieut. H. Haycock (formerly R.F.C., S.R.); 2nd Lieut. M. J. James (formerly R.F.C., S.R.); T. Capt. F. Jefcoate; Capt. (T. Major) W. D. Long (formerly Gen. List); Lieut. J. B. Low (formerly H.L.I.); Major (T. Lieut.-Col.) N. D. K. MacEwen, D.S.O. (formerly A. and S. Highrs.); 2nd Lieut. R. D. G. Macroste (formerly Gen. List); Capt. D. F. Massy (formerly Indian Army); Lieut. (Hon. Capt.) W. G. B. Martin, M.C. (formerly Alberta Regt., Can. Forces); 2nd Lieut. H. M. Matheson, (R.F.C., S.R.) (died); Lieut. W. J. May (formerly Cambs. Regt.); Capt. (T. Major) C. E. H. Medhurst, M.C. (formerly R. Innis. Fus.); Lieut. F. H. Miles (formerly Yeo.); Lieut. R. C. Nicholls (formerly Bedford Regt.); Capt. (T. Major) A. P. Pargiter, M.C. (formerly R. Irish Regt.); Major (T. Lieut.-Col.) W. H. Primrose (formerly A. and S. Highrs.); Capt. the Hon. J. H. B. Rodney, M.C. (formerly Rifle Brigade); Lieut. (T. Capt.) H. L. Saunders (formerly R.F.C., S.R.); Capt. (T. Major) F. W. Stent (formerly R.F.C., S.R.); 2nd Lieut. T. C. Stuart (formerly Gord. Highrs.); Major (T. Lieut.-Col.) G. E. Todd (formerly Welsh Regt.); Lieut. P. S. Vaughan (formerly R. W. Kent Regt.); Capt. (T. Major) R. P. Willock; 2nd Lieut. W. F. Wood; Capt. (T. Major) A. C. Wright

(formerly R.F.C., S.R.); Lieut. R. B. Waite (formerly Yeo.); 2nd Lieut. (Hon. Lieut.) J. C. R. Watson (formerly H.L.I.).

3337 Flight Sergt. H. C. Adams; 6332 Corpl. H. Baldwin; 49586 Corpl. (A. Sergt.) H. A. Ca. tell; 17071 Flight Sergt. S. O. Clark; 1006 Flight Sergt. G. Cooke; 23398 Flight Sergt. A. S. Curtis; 5044 Corpl. G. V. Dowding; 391 T. Sergt.-Major C. G. Grimes; 41491 Corpl. J. Hall; 26861 Flight Sergt. W. Halliday; 12893 Corpl. R. Holmes; 28023 Corpl. J. Jones; 68121 1st Air-Mech. A. J. Leak; 33553 Flight Sergt. W. Mendoza; 67695 Corpl. R. J. Newman; 103710 1st Air-Mech. J. A. Nicholls; 49715 Flight Sergt. F. Norton; 6192 Sergt. J. P. O'Driscoll; 4075 Sergt. S. H. Philpott; 21460 Corpl. H. G. Platten; 37666 Corpl. W. H. Reed; 36675 Corpl. F. L. Rackstraw; 4893 1st Air-Mech. H. Ransome; 16324 Flight Sergt. R. W. Rayner; 26818 Corpl. J. Roberts; 8030 1st Air-Mech. C. A. Smith; 17582 Sergt. W. Swanston; 30746 Corpl. W. Thompson; 6285 Flight Sergt. T. Vickerman; 4154 Sergt. R. Watson; 7830 Sergt. T. P. Wilkins; 35005 Corpl. G. Williams; 2314 Flight Sergt. (T. Sergt.-Major) C. L. Winter; 32578 Corpl. T. Woodcock; 10151 1st Air-Mech. (A. Corpl.) E. A. Wooley; 2454 Flight Sergt. T. M. Yates.

Australian Flying Corps.

Capt. A. M. Jones, M.C.

Aus./275 Corpl. J. M. Bennett; Aus./280 Sergt. J. E. Chalmers; Aus./384 1st Air-Mech. C. Dawes; Aus./176 Corpl. (A. Sergt.) W. E. Kilburn; Aus./14129 1st Air-Mech. L. C. Matulich; Aus./316 Flight Sergt. R. Reilly; Aus./158 Sergt. (A. Flight Sergt.) J. Thomas; Aus./182 1st Air-Mech. H. E. Wadham; Aus./330 Flight Sergt. B. Walford.

Military Medal Awards.

It was announced in the *London Gazette* on June 12th that the King has been pleased to approve of the award of the Military Medal for bravery in the Field to the following:

26216 1st Air-Mech. R. N. Booth, R.A.F.; 25272 1st Air-Mech. B. O. Boundy, R.A.F.; 4248 Flight Sergt. C. F. Colin, R.F.C.; 7966 1st Air-Mech. W. J. Farr, R.A.F.; 98930 2nd Air-Mech. J. G. Glass, R.A.F.; 66635 Sergt. W. N. Holmes, R.A.F.; 15110 Sergt. A. O. A. Pollard, R.A.F.

Rewards for Raider Strafing.

It was announced by the Air Ministry on June 12th that the King has been pleased to confer the Distinguished Flying Cross on the following officers of the Royal Air Force:—

LIEUTENANT EDWARD ERIC TURNER.—Whilst piloting his machine during a hostile air raid he displayed great determination and skill in manœuvring at a height of 11,000 ft. under heavy enemy fire, which enabled his observer to bring effective fire on an enemy aeroplane, resulting in its being driven to the ground.

LIEUTENANT HENRY BALFOUR BARWISE.—Whilst acting as observer to Lieutenant E. E. Turner on patrol duty, during a hostile air raid, he showed great courage and ability. Although exposed to severe fire from the enemy, he took prompt advantage of the skilful piloting of his machine, which enabled him to bring effective fire on his antagonist, as a result of which the enemy aeroplane was badly damaged and forced to land.

For Home Service.

THE King has been pleased, on the occasion of His Majesty's Birthday, to give orders for the following appointment for services in connection with the war, June 3rd:—

C.B. (Military Division).

Lieut.-Col. and Bt. Col. (temp. Maj.-Gen.) E. B. Ashmore, C.M.G., M.V.O., R.A.

To be Brevet Colonel.

Capt. and Bt. Lieut.-Col. (temp. Brig.-Gen.) F. H. Sykes, C.M.G., Hrs. and R.A.F.

To be Brevet Lieut.-Col. on promotion to Major.

Capt. (temp. Lieut.-Col.) L. W. B. Rees, V.C., M.C., R.A. and R.A.F.

"Mentioned in Despatches."

It was announced by the Air Ministry on June 14th that the following officers and other ranks of the R.A.F. have been brought to the notice of the Secretary of State in respect of the valuable services they have rendered in connection with the War, and a record to this effect will accordingly be made in their official records:—

Lieut. (T. Capt.) D. L. Abbott; Capt. (T. Lieut.-Col.) D. L. Allen.

Capt. (T. Major) C. Barber; Lieut. (T. Major) A. S. Barnfield; Lieut. G. C. Bateman; Capt. E. I. Bingham; Major (T. Lieut.-Col.) A. C. Bishop; Lieut. (T. Capt.) D. Blairman;



Capt. (T. Major) E. R. Bond; Capt. A. R. Boyle, M.C.; Hon. Lieut. H. E. Brackenboro; Lieut. C. J. Brockbank; 2nd Lieut. E. W. Brooks; Capt. C. L. Bullock; Lieut. (T. Capt.) G. P. Bulman; Lieut. W. J. Bunting; Hon. Lieut. H. S. Burdett; Capt. (T. Major) J. W. Burt; Lieut. (T. Major) F. B. Burton; Lieut. F. E. M. Bussy; Lieut. (T. Capt.) A. L. Butcher; Capt. (T. Major) C. A. J. Butter.

Capt. (T. Major) C. D. M. Campbell, M.B.E. (deceased); Capt. (T. Major) A. J. Capel; Lieut.-Col. A. D. Carden, D.S.O.; Lieut. (T. Capt.) C. W. Carleton; Major (T. Lieut. Col.) T. W. C. Carthew, D.S.O.; Lieut. A. W. Chapman; 2nd Lieut. W. G. Chate; Capt. A. G. Clark; Lieut. (T. Capt.) S. W. Cliff; Major (T. Lieut.-Col.) R. H. Collier, D.S.O.; Major (T. Col.) C. L. Courtney, D.S.O.; Lieut. (T. Major) H. Cumming; Capt. (T. Major) J. K. Curwen.

Lieut. H. G. Dadley, D.C.M.; Major (T. Lieut.-Col.) I. B. Davson; Capt. (T. Major) C. W. de Roemer; T. Major J. Dickson; Lieut. (T. Capt.) F. C. E. Dimmick; Lieut.-Col. R. C. Donaldson-Hudson, D.S.O.; Lieut. J. Dymond.

Capt. J. W. Eckford; Lieut. (T. Capt.) T. L. Edwards; Major S. O. Everitt.

Capt. (T. Major) H. Foord; Major (T. Lieut.-Col.) M. Freeman; Capt. N. R. Fuller; Lieut. (T. Capt.) J. M. Furnival.

Capt. (T. Major) C. E. Gardner; Capt. R. B. Garrard; Lieut. (T. Capt.) G. A. Giles; Capt. (T. Major) R. E. Goddard; Capt. A. Goodfellow; Capt. T. Goulburn; Lieut. A. G. Griggs.

Lieut. (T. Major) E. S. Halford; Lieut. G. Hall; Lieut. G. D. Harrison; 2nd Lieut. F. W. Healey; Capt. J. F. Hedley; Major G. L. P. Henderson, M.C.; Major W. Higginbotham; Major (T. Lieut.-Col.) F. R. G. Hoare; Lieut. (T. Capt.) D. Hodgson; Lieut. (T. Capt.) W. Hodgson; Lieut. (T. Capt.) F. H. Holdsworth; 2nd Lieut. A. Holmes; Capt. W. H. Holroyd; Capt. (Hon. Major) C. A. Hooper; Major B. Hopkinson, C.M.G.; Capt. L. S. B. Hull; Capt. (T. Major) T. G. Hull.

Lieut. (T. Capt.) D. C. James; Capt. (T. Major) M. J. C. S. Johnstone; Lieut. (Hon. Capt.) L. J. Jones.

Capt. G. W. C. Kaye; 2nd Lieut. S. T. Kemp; Capt. D. H. Kennedy; Capt. (T. Major) S. S. Kennedy; Lieut. (T. Capt.) L. R. Kerridge; Lieut. (T. Capt.) G. J. King; Lieut. (T. Capt.) W. J. King.

T. Capt. G. S. Lardner; T. Lieut. (T. Lieut.-Col.) O. W. R. G. Latimer; Capt. W. A. Lawrance; Capt. R. B. H. Lechmere; Capt. (T. Major) L. W. W. Lees; Capt. H. S. Lees-Smith; Lieut. (Hon. Capt.) W. W. Leete; Capt. E. P. Leigh-Bennett; Capt. (T. Major) O. G. W. C. Lywood.

Capt. (T. Major) E. G. Mackenzie; Hon. Lieut. E. L. Mann; Capt. (T. Major) M. Marsden; Lieut. (T. Capt.) N. Martin; Capt. E. S. McDonald; Lieut. (T. Capt.) R. McPhail; Major (T. Lieut.-Col.) A. H. Measures; Major (T. Lieut.-Col.) M. D. Methven; Capt. (T. Major) T. B. Meyer; Lieut. (T. Capt.) R. G. Mitchell; Capt. A. McR. Moffatt; Major R. Money; Lieut. (T. Capt.) G. J. Monson-Fitzjohn; Lieut. (T. Major) H. J. de C. Moore; Capt. S. R. Mullard; Lieut. D. Munro; Capt. (T. Major) C. J. Murfitt; Capt. (T. Major) P. B. J. Murrell.

Lieut. (T. Capt.) M. D. Nares; Lieut. A. E. Neal; Lieut. (T. Capt.) N. D. Newall; Lieut. J. R. Nicholls.

Lieut. (T. Capt.) S. E. H. Orde; Capt. H. W. S. Outram; Lieut. (T. Major) P. S. J. Owen.

Lieut. W. Park; Lieut. P. C. Passmann; Lieut. (T. Capt.) C. Patteson, M.C.; Lieut. (T. Capt.) T. A. Peddell; Lieut. (T. Major) L. H. Peter, M.C.; Capt. (T. Lieut.-Col.) R. C. M. Pink; Capt. E. P. Plenty; Capt. (T. Major) W. J. D. Pryce, D.C.M.

Capt. (T. Major) S. C. Raffles; Lieut. B. C. Rayner; Lieut. (T. Capt.) C. Rayner; Capt. (T. Major) G. R. M. Reid, M.C.; Lieut. (T. Capt.) F. Rose; Lieut. W. H. Rose; Hon. Capt. A. A. Ross; Lieut. C. C. G. Rudolf.

Capt. W. A. C. Sandford-Thompson; Lieut. (T. Capt.) A. P. Sargeant; Lieut. (T. Capt.) D. B. Sanders; 2nd Lieut. R. J. Shanks; Capt. (T. Major) W. J. Shields; Lieut. (T. Capt.) W. A. Shirlaw; Lieut. (T. Capt.) H. G. Smart; Capt. (T. Major) G. E. Smith; Capt. A. F. P. H. Somerset-Leeke; Capt. (T. Major) R. F. Stapleton-Cotton; Lieut. (T. Capt.) J. Stewart; Lieut.-Col. (T. Col.) R. D. S. Stoney; Capt. (T. Major) T. F. G. Strubell; Lieut. (T. Capt.) G. H. L. Sweet.

Lieut. (T. Capt.) E. H. Tatton (deceased); Lieut. A. L. Thomas; Capt. R. W. Thomas; Lieut. (T. Capt.) J. E. B. Thornely; Capt. (T. Major) E. G. Toye; Capt. (T. Major) F. W. Trott, M.C.; Capt. (T. Major) A. K. Tylee.

Capt. (T. Major) H. R. Vagg.

Capt. C. C. Waddington; Capt. E. G. Walker; Lieut. J. Walker; Hon. Lieut. R. J. Ward; Lieut. W. P. T. Watts; Lieut. (Hon. Capt.) D. C. Waylen; Lieut. (T. Lieut.-Col.) H. L. Webb; Capt. L. M. Wells-Bladen; Lieut. C. B. Whelan;

Lieut.-Col. (T. Brig.-Gen.) C. H. Whittington, C.M.G.; Lieut. (T. Capt.) B. W. M. Williams; Lieut. (T. Capt.) E. L. Williams, M.C.; 2nd Lieut. J. S. Wood; Lieut. F. A. Woolfe; Lieut. H. L. Woolveridge.

5128 Sergt. (A. Flight Sergt.) H. Aldridge; 609 Flight Sergt. T. Armstrong; 48205 A. Flight Clerk J. H. Bannister; 43317 Chief Mech. W. H. Barton; 26086 Corpl. J. H. Bartram; 29589 A. Corpl. C. J. Bayzand; 6399 Corpl. J. C. Blow; 24244 Sergt.-Major J. Brereton; 3640 Chief Master-Mech. T. Brett; 25815 Corpl. F. Brown; 10101 Flight Sergt. H. Brown; F/23108 A. Air-Mech. 1st Cl., R. M. Brutnell; F/6019 Leading Mech. (W.) C. F. Bulmer; 108598 Flight Sergt. F. Campbell (formerly A.O.C.); F/16348 Aircraftsman (1st Cl.) W. H. Cant; 49399 Sergt.-Maj. J. E. Chambers; 8806 T. Sergt.-Major H. H. Coffin; 37686 Flight Sergt. A. T. Cooper; 12522 Flight Sergt. J. H. Crumby; 406716 Sergt. F. A. Curtis; 21063 Flight Sergt. P. W. Deeks; 4732 Pte. A. J. Divers (H.A.C., attached R.A.F.); 554 Chief Master-Mech. J. J. Duffey; 1035 Sergt.-Major F. Dunlop (R.E., attached R.A.F.); 1522 Chief Mech. W. Eggett; F/14497 Petty Officer (Draughtsman) W. G. Fairley; 401163 A. Flight Sergt. G. F. Finn; 22760 Sergt. G. R. George; 355 Chief Mech. B. E. Goodgame; 57041 1st Air Mech. F. Goodhind; 61593 T. Sergt.-Major G. Gray; 69962 Flight Sergt. T. A. C. Grimwood; 1867 Flight Sergt. R. Griffin; 57417 1st Air Mech. J. de Groot; 579 Sergt.-Major T. E. Guttery; 403 T. Sergt.-Major A. E. Hobson; 1734 T. Sergt.-Major R. A. Howes; 43416 1st Air-Mech. T. J. Irvine; 26529 T. Sergt.-Major A. S. Langford; 16845 Corpl. W. Laws; 49831 Corpl. W. Leach; 42293 T. Sergt.-Major A. A. Loveridge; 48176 A. Flight Clerk W. Orgles; 2435 Sergt.-Major F. A. Payne (R.E., attached R.A.F.); 3427 Pte. W. J. Phillips, (H.A.C., attached R.A.F.); F/4476 Leading Mech. (Draughtsman) T. D. Roberts; 67476 Superintending Clerk G. W. Robinson (R.A., attached R.A.F.); 21236 Flight Sergt. C. H. Roser; 63237 2nd Air-Mech. L. G. Scragg; 187 Sergt.-Major A. R. Seabrook; 19199 1st Air-Mech. J. Sheppard; 23107 Sergt. L. Simons; 29274 Sergt. P. S. Simpson; 24022 Flight Clerk T. Slater; 13420 Flight Sergt. R. P. Slaughter; 2684 Flight Sergt. E. T. Stredder; 58569 Sergt.-Major C. Street (R.A., attached R.A.F.); 93483 A. Corpl. W. H. Tarrant; 3805 Flight Sergt. W. J. Thomas; 15883 Corpl. M. M. Thomson; 2535 Chief Master Mech. S. F. Trimm; 47580 Corpl. Mech. R. E. A. Trehet; 67098 A. Corpl. E. L. Turner; 19783 Flight Sergt. A. W. Weston; F/4972 Leading Mech. (Draughtsman) A. W. Whistlecroft; 61535 Corpl. E. Williams; 248 Sergt.-Major H. Woods; 41324 Sergt. T. Wray.

Honours for War Workers.

THE King has been pleased, on the occasion of His Majesty's Birthday, to give orders for the following appointments to the Most Excellent Order of the British Empire, dated June 3rd, for services in connection with the war:—

Members (M.B.E.).

Major Charles Reginald Abbott, Staff Officer, 2nd Cl., R.A.F.; Major Eustace Montagu Lafone Ainslie, Controller of a Reception Park, Aeroplane Supply Depot, R.A.F.; Major Michael Henry Percival Allen, Staff Officer, 2nd Cl., R.A.F.; Major Cyril Rogers Andrews, Staff Officer, 2nd Cl., R.A.F.; 2nd Lieut. William Thomas Finley Atherton, Anti-Aircraft Defences, Home Forces; Lieut. Frank Clement Ball, Anti-Aircraft Defences, Home Forces; Capt. Wyndham Lindsay Birch, W. Yorks Regt., attd. R.A.F.; Percy Bramwell, Esq., Dep. Asst. Inspector of Seaplanes, Aeronautical Inspection, Ministry of Munitions; Lieut. Cecil Norman Brown, Anti-Aircraft Defences, Home Forces; Miss Millie Gertrude Clutterbuck, Registry, Air Ministry; Capt. Charles George Coe, Equipment Officer, R.A.F.; 2nd Lieut. Colin Goss Coleridge, R.A.F.; John Howarth Collins, Esq., Dep. Asst. Inspector of Engines, Aeronautical Inspection, Ministry of Munitions; Major Guy William Cranfield, Staff Officer, 2nd Cl., R.A.F.; Capt. Sidney Lewes Dashwood, Brigade Wireless Organisation Officer, R.A.F.; Major Percy Granville Edge, Staff Officer, 2nd Cl., R.A.F.; Capt. Philip Edward Broadley Fooks, Anti-Aircraft Defences, Home Forces; Major Charles William Gamble, Staff Officer, 2nd Cl., R.A.F.; Capt. William Walker Gibson, special employment at a Port Depot, R.A.F.; Fred Greenall, Esq., Dep. Asst. Inspector of Aeroplanes, Aeronautical Inspection, Ministry of Munitions; James Gurling, Esq., Dep. Asst. Inspector of Engines, Aeronautical Inspection, Ministry of Munitions; Major Robert Hall, Aircraft, Park Commander, R.A.F.; Harry George Hawker, Esq., Trade Pilot, Sopwith Aviation Co., Ltd.; Major John Harris Hills, Staff Officer, 2nd Cl., R.A.F.; Major

Reginald Holloway, Staff Officer, 2nd Cl., R.A.F.; Mrs. Margaret Lillian Cowper Jackson, Admin. Asst. Supplies (Aeroplanes), Aircraft Production Department, Ministry of Munitions; Major Charles Frederick Krabbe, Staff Officer, 2nd Cl., R.A.F.; Lieut Harold Lawson, Officer-Clerk, R.A.F.; Major Thomas Geoffrey Leith, Aircraft Production Directorate and R.A.F.; Major James McCrae, Commander of an Aircraft Acceptance Park, R.A.F.; Lieut Percy Middlemas, Gunnery Officer, R.A.F. (Machine Guns); Major Arnold John Miley, Aircraft Production Directorate and R.A.F.; Major Exley Livingston Millar, Controller of an Aeroplane Repair Section in the Field; Lieut.-Col. Malcolm Nicholson, Staff Officer, 2nd Cl., R.A.F.; Major James Edward Parkin, R.A.F., Recruits' Training Depot; Major William Edward Plaister, Staff Officer, 2nd Cl., R.A.F.; Capt. William Francis Prentice, Technical Officer, R.A.F., and Directorate of Aircraft Production; Capt. Charles Edmond Prince, Wireless Experimental Officer, 1st Class, R.A.F.; Mrs. Ethne Philippa Pryor, Hon. Sec., Prisoners of War Dept., R.A.F. Aid Committee; Capt. William Oswald Raikes, Staff Officer, 2nd Cl., Training Division, R.A.F.; Major John Clifford Savage, Staff Officer, 2nd Cl., R.A.F.; James Scott, Esq., Dep. Asst. Inspector of Aeroplanes, Aeronautical Inspection, Ministry of Munitions; Lieut Foster James Semmons, Anti-Aircraft Defences, Home Forces; Frank Seymour, Esq., Dep. Asst. Inspector of Aeroplanes, Aeronautical Inspection, Ministry of Munitions; Bertram Haylock, Smale, Esq., Dep. Asst. Inspector of Aeroplanes, Aeronautical Inspection, Ministry of Munitions; Capt. Fred Hibbard Songhurst, R.A.F., in charge of Workshops in an Overseas Aircraft Park; Miss Gertrude Vera Sorby, Administrative Asst., Supplies (Aeroplanes), Aircraft Production Department, Ministry of Munitions; John Hayward Spencer, Esq., Dep. Asst. Inspector of Aeroplanes, Aeronautical Inspection, Ministry of Munitions; Major George Ernest Stagg, Staff Officer, 2nd Cl., R.A.F.; Lieut. Cyril John Strother, Technical Officer (Wireless Duties), R.A.F.; Capt. the Hon. Percy Mansfield Thesiger, R.A.F., conducting an Equipment Branch in the Field; Lieut. Arthur Percy Vanneck, Anti-Aircraft Defences, Home Forces; Capt. Frederick Ernest Banister Whitfield, R.A.F. (Wing Adjutant).

The following ladies and gentlemen, employed by the Air Ministry, have been brought to the notice of the Secretary of State in respect of the valuable services they have rendered in connection with the war:—

Mrs. D. Alban, Blackheath; Miss D. M. Allen, Cricklewood; C. F. Ansell, Blandford.

L. B. Barclay, Ayr; A. E. Beresford, Mill Hill, Middlesex; Miss E. M. Blair, Earl's Court; Miss A. E. Boorer, Knightsbridge; Miss H. Boxall, Clapham Park; G. F. Ae. S. Brewer, Teddington; Miss I. Britten, Brondesbury, N.W.; Miss M. G. Byham, Battersea.

Mrs. M. E. Cant, Putney; Miss O. E. Cardew, W. Ealing; G. E. Caudle, Wimbledon; Miss A. E. Chase, Sydenham; Miss A. M. Clarke, Norbury, S.W.; W. C. Collins, M.D., Knightsbridge; Miss M. K. Cook, Peckham Rye, S.E.; Miss C. T. Copland, London, W.; W. A. Cuddihy, Camberley; Miss M. F. Cullen, Gerrard's Cross; N. Cummings, Bromley, Kent.

Miss M. F. Dakyns, Wimpole Street, W.; J. J. Dale, Ealing Broadway; Miss H. J. Davie, Streatham Hill, S.W.; Miss A. M. M. Davies, Eltham, Kent; Mrs. N. Davies, Bristol; Mrs. M. de Courcy Ireland, London, W.C.; Miss C. Dudley, London, W.; Mrs. M. R. Dundas, London, W.

J. D. Eadie, Clydebank; Miss F. Eaton, Ealing; Miss K. F. Edgar, Salisbury; J. Eyre, M.D., London, W.

Miss I. W. Fitzwilliam, London, S.W.; Miss H. Frances, London, S.W.; P. Franklin, F.R.C.S., London, W.; A. R. Fulton, Monifieth, Forfarshire.

Mrs. C. B. Gething, Fleet, Hants; Miss E. M. Gledhill, Kingston-on-Thames; Miss I. Gilchrist, Erith, Kent; Mrs. N. Godfrey, Finchley; Miss G. M. Godsall, London, W.; Miss B. M. Goodeve, Hanwell; J. Gosling, Howmill, Carlisle; Miss N. Gosset, Hyde Park, W.; Miss E. M. Grant, Tufnell Park, N.; W. F. Guiver, Rolls-Royce Co.

Miss M. Hall, Eastbourne; Mrs. A. J. Hallack, London, W.; Miss E. Harvey, Greenwich; Miss W. E. Hayward, Salisbury; Mrs. E. M. Hedges, Finchley; E. T. H. Hedges, Ayr; Miss E. Hedley, London, S.E.; H. G. Hickman, Rolls Royce Co.; Mrs. E. G. Hingston, London, S.W.; Mrs. M. M. Hodges, Bowes Park, N.; Mrs. J. Hogg, Ealing; J. Hoyes, Blandford.

W. Jagger, M.B., London, W.

Mrs. U. M. Langton, London, S.W.; Miss D. C. Lawman,

Upper Tooting; Miss D. R. Ley, Regent's Park, N.W.; Mrs. P. Lilley, South Kensington; Miss G. A. Lindsay, New Cross, S.E.; Miss L. Luff, Clapham; Miss K. L. Lyons, Balham.

Miss L. McEnerney, Chelsea; L. H. Gavin, F.R.C.S., London, W.; Miss M. D. Mackie, Sydenham; Miss R. L. MacLachie, Forest Hill, S.E.; Miss M. E. Martin, Guildford; Miss M. V. Marriott, Beckenham, Kent; Miss E. M. Mason, Balham, S.W.; Miss M. E. Matthews, Surbiton; Miss M. E. Merry, Wandsworth Common; Miss N. E. Mills, Salisbury; Miss P. T. M. Moorcroft, Carshalton.

Miss O. W. Newman, Chiswick; Mrs. R. M. Norton, Richmond.

Miss Madge Palmer, Hanwell; Miss P. B. Parker, Wilton House, Eaton Square, S.W.; Miss W. E. Parkinson, Forest Hill, S.E.; Miss S. Parsons, London, W.; Mrs. G. E. Pearce, Forest Gate, E.; Mrs. E. I. Petrides, Holland Road, W.; Miss E. G. Pollock, Kensington, W.; Miss G. L. Portch, Parsons Green.

Miss J. A. C. Rainie, Newton Manse, Ayr; F. H. Rogers, Thornton Heath; Mrs. H. M. Rouse, Hampton Wick; Miss N. M. Russon, Tufnell Park, N.; Miss M. Rye, Chiswick.

Miss M. de C. Somerset, London, W.C.; Miss P. M. Stagg, New Southgate, N.; A. P. Starkey, Harrow; Mrs. E. M. Steinberg, Kensington, S.W.; Miss B. M. Stinton, Salisbury; Miss D. Stutfield, Hampstead.

Mrs. G. Taylor, Chelsea; W. Taylor, Rolls-Royce Co.; Miss M. A. Thomson, London, W.; Miss F. Thorpe, London, W.

Mrs. A. M. Upton, Myatts Park, S.E.

Miss E. Vaughan, New Cross, S.E.

R. C. B. Wall, M.B., London, W.; Mrs. E. Waltham, Bristol; Miss G. N. Ward, Chelsea; Miss W. E. Watts, Leytonstone; Mrs. E. B. Whitaker, St. John's Wood, N.W.; Miss E. L. Wickham, Clapham; Miss V. Willby, Wandsworth; Mrs. D. W. Williams, West Kensington; Miss M. M. Wright, Muswell Hill, N.W.

British Empire Medals for Gallantry.

THE King has been pleased to confer the Medal of the Most Excellent Order of the British Empire on the following persons for services in connection with the war, in which great courage or self-sacrifice has been displayed. The awards are dated June 3rd:—

Displayed conspicuous courage and presence of mind on the occasion of an air raid when school in which they were teaching was struck by a bomb:—

Mrs. Annie E. Allum; Mrs. Mary P. Cunningham, assistant mistress; Frank Denner, headmaster; Mrs. Gertrude Middleton, assistant mistress, Infants' Department; Emma W. Watkins, assistant mistress, Infants' Department.

For courage and presence of mind on the occasion of an air raid, when he averted a panic in a school in which a large number of persons had taken refuge:—

Frederick Churchill, Joseph Taylor, and John A. Weaver, schoolkeepers.

Displayed great courage in attending to persons wounded on the occasion of an attack by enemy aircraft. He rendered first aid in the midst of gas escaping from a burning main, and worked continuously for 72 hours:—

Alfred H. North, caretaker.

Displayed great courage and devotion to duty during air raids:—

Gertrude Andrews, sorting clerk and telegraphist; Edith Amy Beck, telephonist; Lilian A. Beverley, supervisor of telephones; Mrs. Mary A. Binns, acting caretaker operator telephones; Annie D. S. Bullions, telephonist; Elsie M. Burt, sorting clerk and telegraphist; Ada Carpenter, supervisor telephones; Ivy Cuthbert, telephonist; Eileen Donovan, telephonist; Ellen H. Enefer, telephonist; Ethel R. Everard, supervisor telephones; Ethel E. Fakeley, telephonist; Phyllis Gittings, telephonist; Mrs. Rosa Harrison, telephonist; Florence M. Haylock, telephonist; Mrs. Edith M. Haynes, supervisor telephones; Emily M. Henbrey, sorting clerk and telegraphist; Rosetta Hollamby, telephonist; Isabella Howe, telephonist; Agnes Hunter, telephonist, especially when in a position of responsibility and grave danger on occasion of a serious explosion; Mary J. Jamison, supervisor telephones; Mary D. Johnstone, supervisor telephones; Anita M. Jones, telephonist; Jessie Lightbody, telephonist; Ethel V. Marlow, telephonist; Lilian Mitchell, supervisor telephones; Grace P. Perritt, telephonist; Ada Price, telephonist; William Richardson, Metropolitan Police Constable; Henry Savage, night telephonist; Charlotte E. F. Smith, sorting clerk and telegraphist; Emily K. Stokes, telephonist; Lilian

Storey, telephonist; May E. Thompsett, sorting clerk and telegraphist, on duty at dangerous position during air raids and bombardments; Dr. Edward Wright, divisional surgeon (Metropolitan Police), attending to injured.

For courage and devotion to duty in connection with the rescue of persons injured by air raid:—

Sapper George Berry, No. 2 Emergency station R.E.; Sapper William Brown, No. 2 Emergency Station, R.E.; Frank Burton, sapper, R.E. (London); Sergt. George H. Cox, R.E. (London); Albert Drew, sapper, R.E.; L.-Corpl. Herbert Drew, R.E.; Thomas Jackson; George Solomon, sapper, R.E.

Endeavoured at great personal risk to rescue injured persons from a demolished building on the occasion of an air raid:—
George Bentley, special constable.

Displayed great courage and devotion in rescue work on the occasion of a Zeppelin raid:—Dr. Ernest J. Berkley; Dr. Athol R. Moore; Richard White.

For courage and self-sacrifice shown during an air raid:—
Charles Baldwin, surgery attendant.

While an air raid was in progress showed great presence of

mind in removing wounded officers, from a hut which had been wrecked by a bomb:—

Private George Alexander Brown, Expeditionary Force Canteens.

For courage at a fire caused by an air raid. He picked up a burning incendiary bomb and placed it in a bucket of water:—
Trooper Sydney Bert Codman, 1st Life Guards.

For courage and presence of mind in preventing an explosion at great personal risk:—

Leading Mechanic Harry Tilley, R.N.A.S.

Royal Society of Arts Albert Medal.

On the recommendation of the council of the Royal Society of Arts, the Duke of Connaught, as president, has awarded the Albert Medal for 1918 to Sir Richard Tetley Glazebrook, C.B., Sc.D., F.R.S., "for his services in the application of science to the industries of peace and war, by his work as director of the National Physical Laboratory since 1899, and as chairman of the Advisory Committee for Aeronautics."

The society's Albert Medal, founded in 1863 to commemorate the presidency of Prince Albert, is awarded annually "for distinguished merit in promoting arts, manufactures and commerce."



The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

THE FLYING SERVICES FUND

(Registered under the War Charities Act, 1916).

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Major C. E. MAUDE, R.A.F.

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Lieut.-Com. H. E. PERRIN, R.N.V.R.

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Objects:

The Lords Commissioners of the Admiralty and the Army Council having signified their approval, THE ROYAL AERO CLUB has instituted and is administering this Fund for the benefit of Officers, Non-Commissioned Officers and Men of the Royal Air Forces who are incapacitated on active service, and for the widows and dependants of those who are killed.

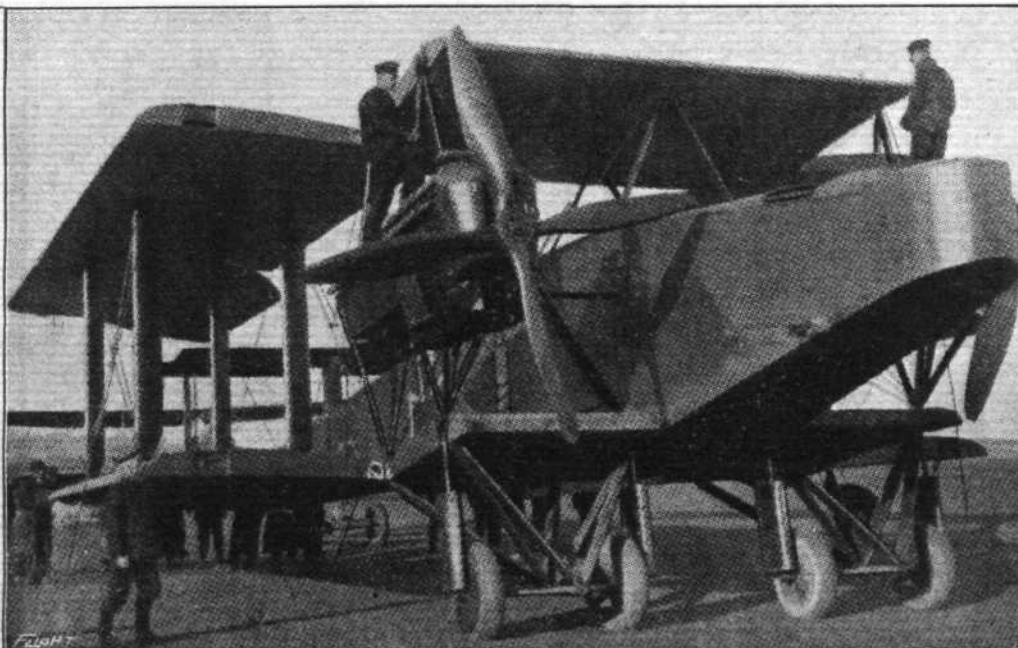
Subscriptions.

	£	s.	d.
Total subscriptions received to June 11th, 1918	12,759	14	11
Miss E. Bairdsmith (Second contribution)	..	1	10

Total, June 18th, 1918.. .. 12,760 15 11

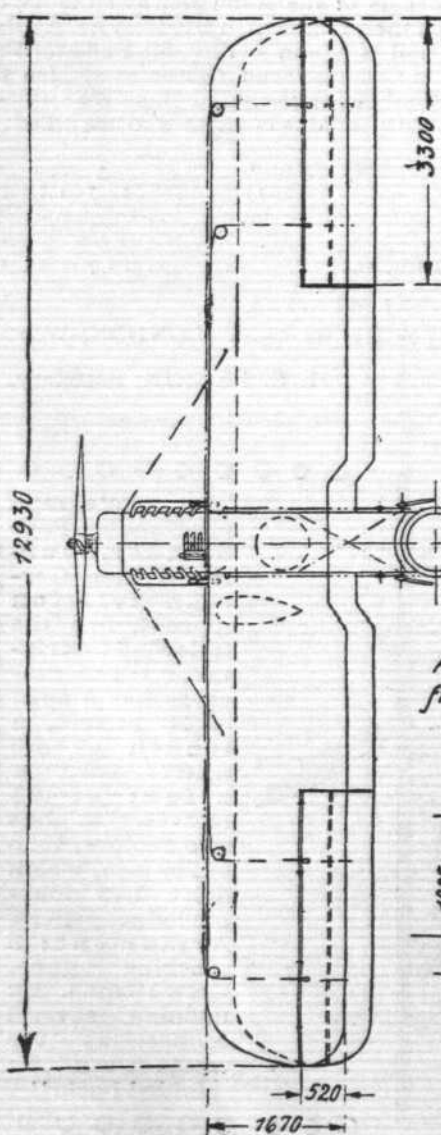
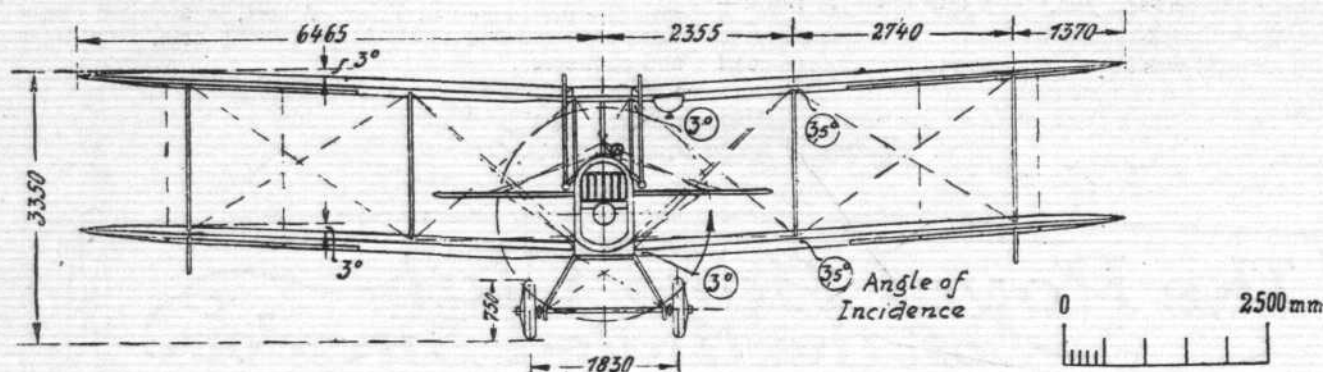
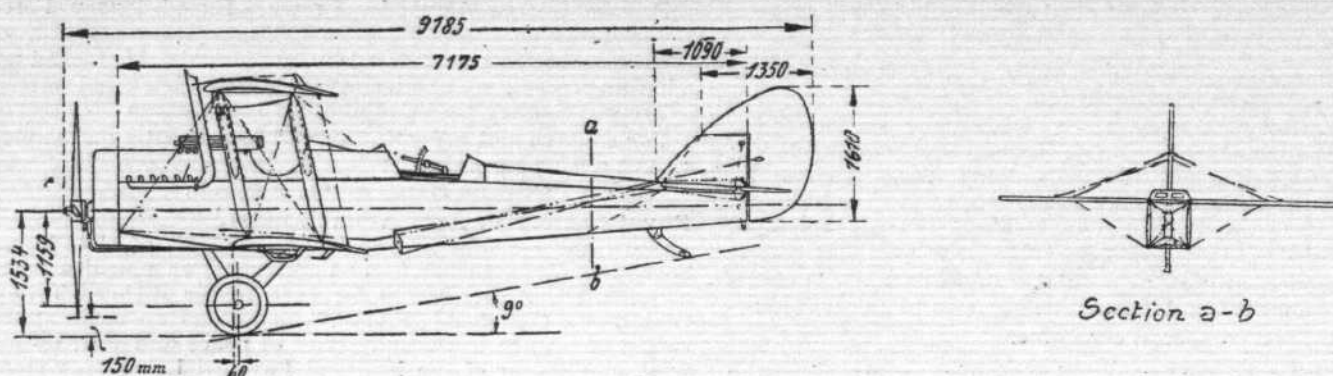
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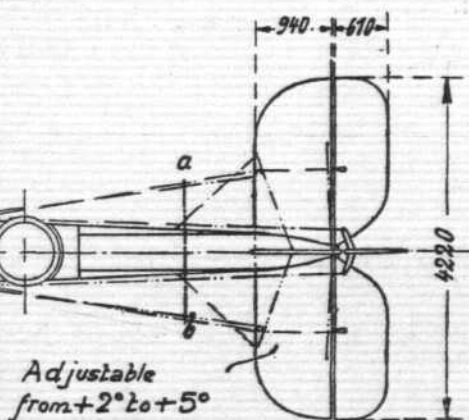


This photograph of a Handley-Page bomber, published in a German aviation journal, has the following inscription: "The machine has a span of 30 metres, a length of 20 metres, and a height of 6½ metres. It has two motors, each of 260 h.p., which drive two four-bladed propellers. Armament: 3 machine guns. Crew: 5 men. By undoing several connections the wings can be folded back."

THE DE HAVILLAND IV BIPLANE.



Body: Wire-braced girder.
 Stern Post: Height: 305 m.m.; Width: 45 m.m.
 Longerons: Ash and Spruce.
 Struts: Spruce.
 Body bracing: Steel Wire
 Covering: Ply-Wood and Fabric.



Maximum Cross-
 Section Area: 0.82 m²

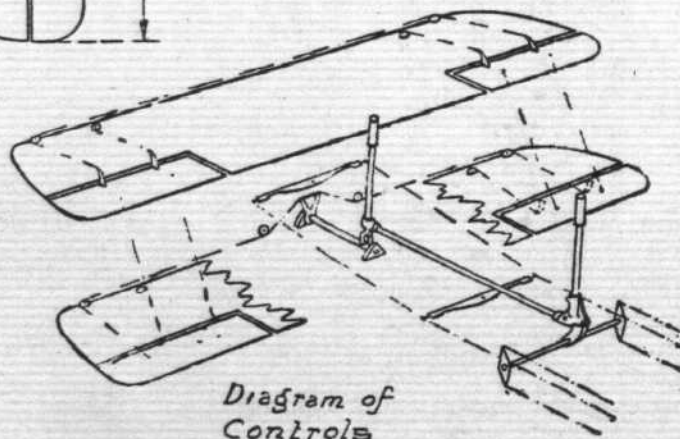
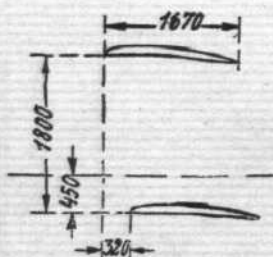


Fig. 1.—Scale drawing of the de Havilland IV biplane.

THE DE HAVILLAND IV BIPLANE.*

300 H.P. ROLLS-ROYCE ENGINE.

THIS large aeroplane, employed for long distance reconnaissance and for bomb dropping, is chiefly built by the Aircraft Manufacturing Co., Ltd. The different machines show minor differences in construction and outfitting according to the time of construction. Both wings of the two strutter biplane, which have distinctly rounded tips, have a span of 12.93 metres and a chord of 1.67 metres. The stagger is 0.32 metres. There is no sweep-back, but the upper and lower planes are attached respectively to a centre section 0.7 metre wide and direct to the body, at a dihedral angle of 174° . The pilot, whose seat is right under the top plane centre section, has a good view forward. The centre section and wings have their trailing portions cut away in the centre to give a better view backwards. The angle of incidence is 3° at the body and at the top plane centre section. Both main spars, which are of spruce, are of one section, left solid where occur the compression ribs. At these points and where fittings occur the spars are not only left solid but are reinforced by mahogany pieces glued and screwed on. At a point between the inner inter-plane struts and the commencement of the wing flaps the main wing spars are spliced (see Fig. 2) and bound with fabric.

The wing ribs are only very slightly cambered on the under surface. Leading and trailing edges are slightly raised. Into grooves in the two flanges, which measure 13 mm. in width and 4.5 mm. in thickness, are glued and tacked with brass tacks the three-ply webs, which are provided with large lightening holes. The ribs at the struts and in the middle of each bay have flanges as wide as 37 mm. and the

* Translated from *Flugsport*.

web between them is solid spruce between the spars. Between every two ribs, which are spaced 310 to 400 mm. apart, there is a false rib extending from the leading edge to the front spar. The internal wing bracing, which is of thick-ended wire, is in duplicate up to the middle of the outer bay. The wing covering is of a yellowish-white colour, and is sewn

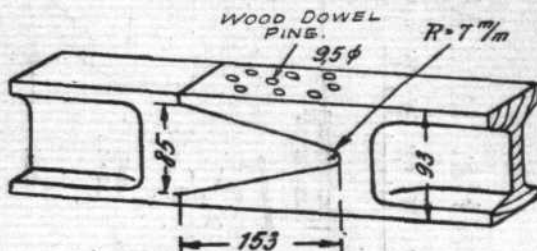


Fig. 2.—Wing spar splice.

to the ribs in such a way that the stitches surround the whole rib. In front of the trailing edge, which is in the form of a strip of wood, eyelets are incorporated in the under surface, which serve to equalise pressure and to drain out moisture.

The crank levers of the wing flaps, which in all the planes are hinged direct to the rear spars, are made of 1.5 mm. sheet aluminium, which is reinforced on either side by facings of wood riveted on. The same construction is employed for the elevator and rudder cranks. At their outer end, where the control cables are attached, the aluminium cranks are doubled over. The very simply arranged wing bracing con-

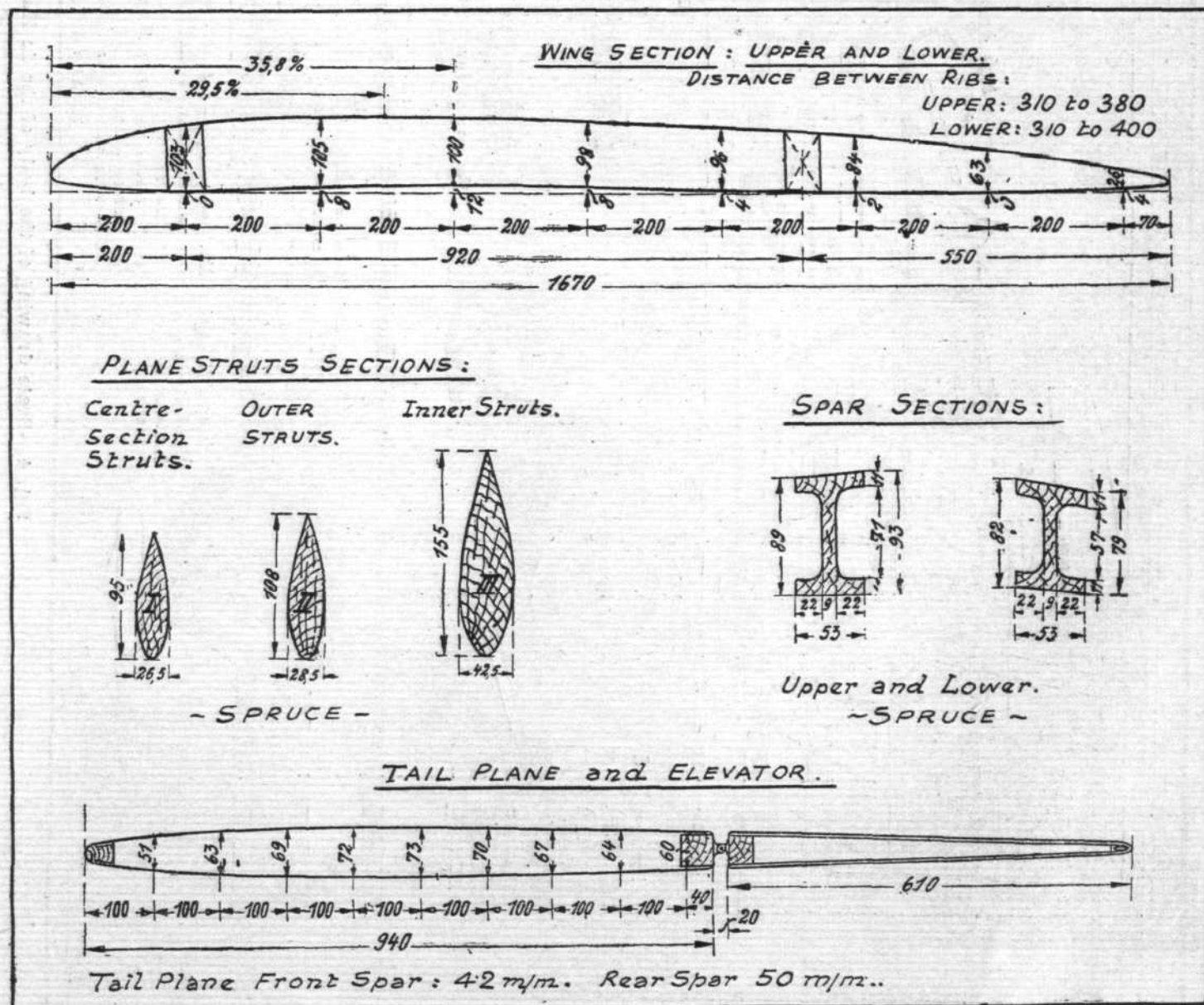


Fig. 3.—Wing section and tail plane section of the de Havilland IV biplane.

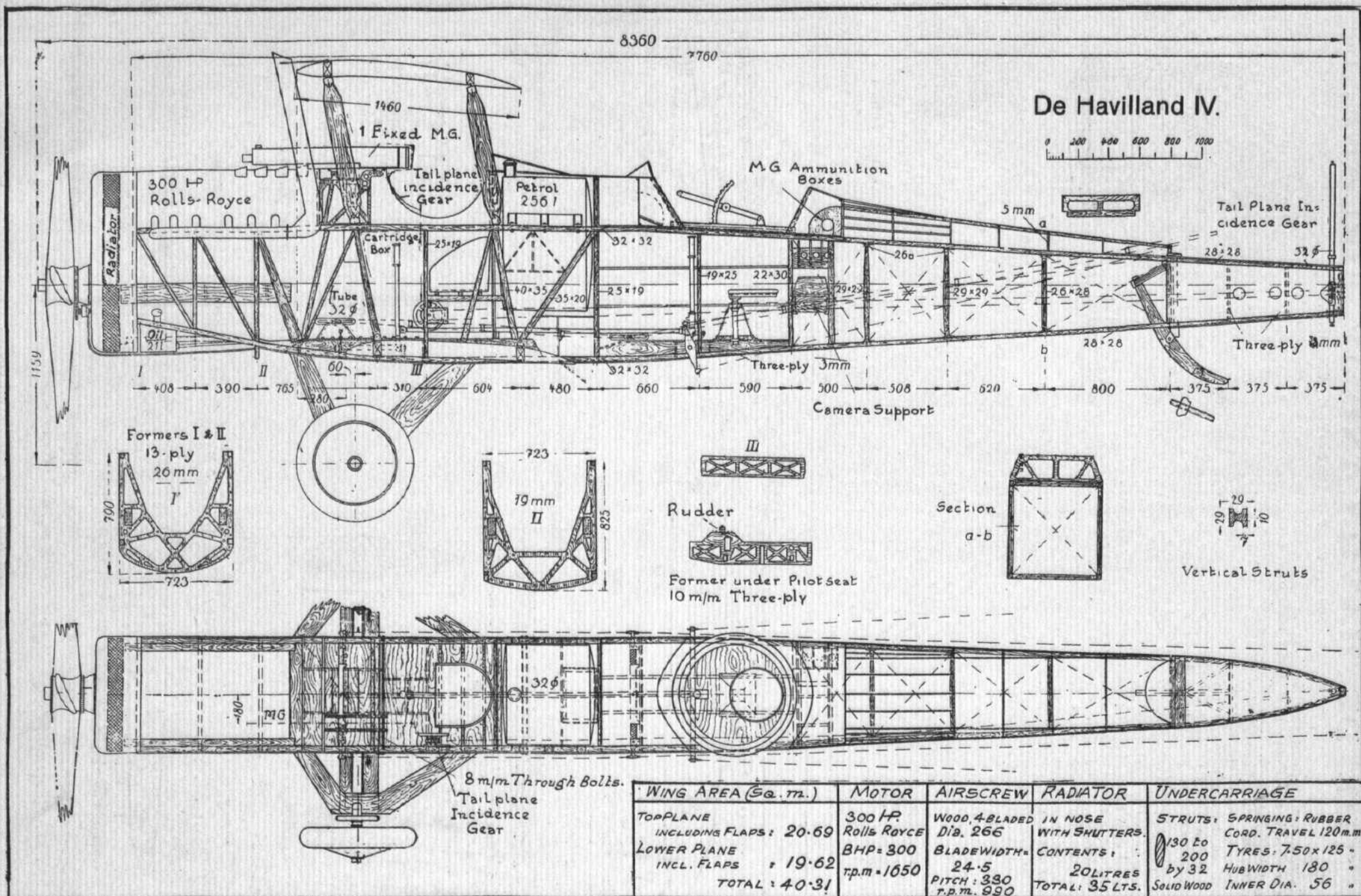


Fig. 4.—Scale drawing of the body of the de Havilland IV biplane.

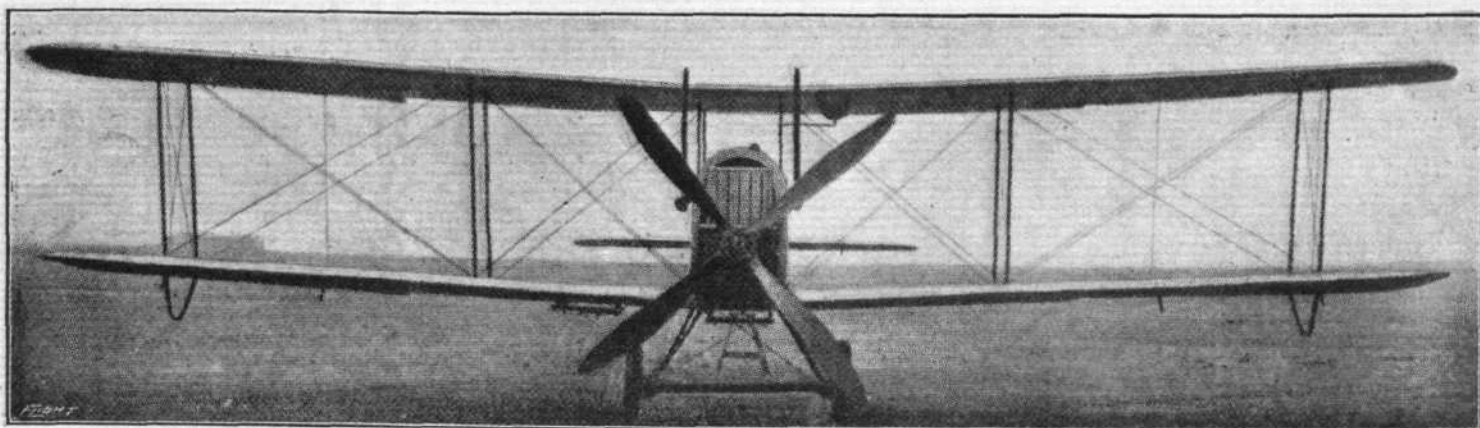


Fig. 5.—Front view of the de Havilland IV biplane.

sists of stream line wire, while the external drift bracing takes the form of cables.

The wing fittings are, as in so many other English machines, very simply carried out. 3 mm. thick sheet steel plates at the outer plane struts, and 3 mm. and 2 mm. at the inner struts, having lugs bent to the angle of the bracing wires,

into which are riveted aluminium packing pieces hollowed out in the centre. Through these are passed 8 mm. steel bolts, which rest in the forked end of the spar bolts, the bracing wires keeping the struts in place. The struts for the top plane centre section are similarly attached.

The fuselage is covered with ply wood up to a point behind

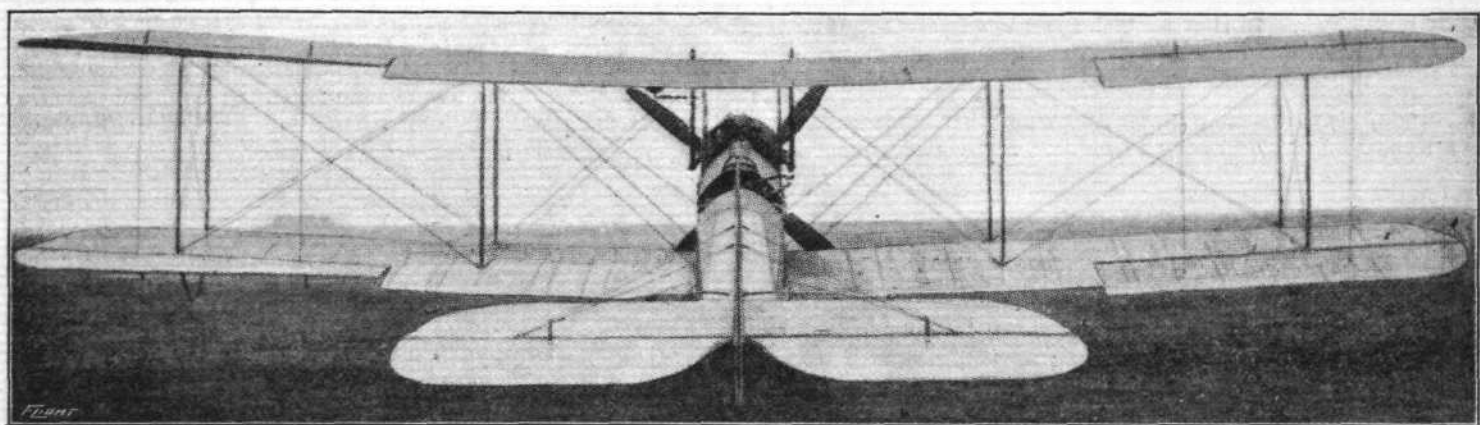


Fig. 6.—Rear view of the de Havilland IV biplane.

are secured to the wing spars by two bolts. A large forked bolt passes through the centre of the spar while a second smaller one passes down the outside of the spar. The inter-plane struts, which are made of spruce, are of stream line section, and the inner struts are kept stronger than the outer ones. On the ends of the struts are short sheet steel shoes

the gunner's cockpit, this part being built up without the use of diagonal bracing. The longerons are of spruce and the engine bearers of ash. The formers as well as supports for controls and machine guns are made of ply-wood, some of which is 13-ply and as much as 26 mm. thick. The fittings for the attachment of the lift wires are each connected with

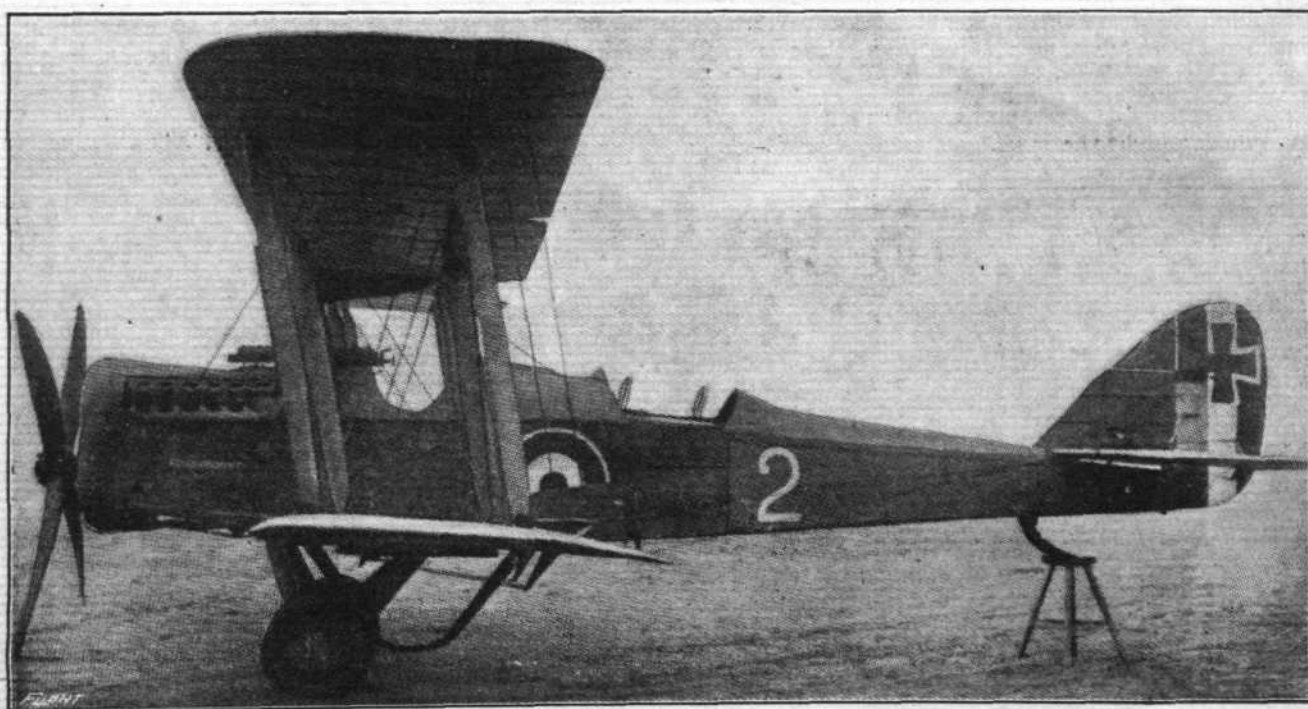


Fig. 7.—Side view of the de Havilland IV biplane.

two 8 mm. through-bolts. The after portion of the fuselage is carried out in the usual manner as a girder, and the longerons are spliced. This does not apply to the extreme rear part underneath the tail plane, which is covered with ply-wood

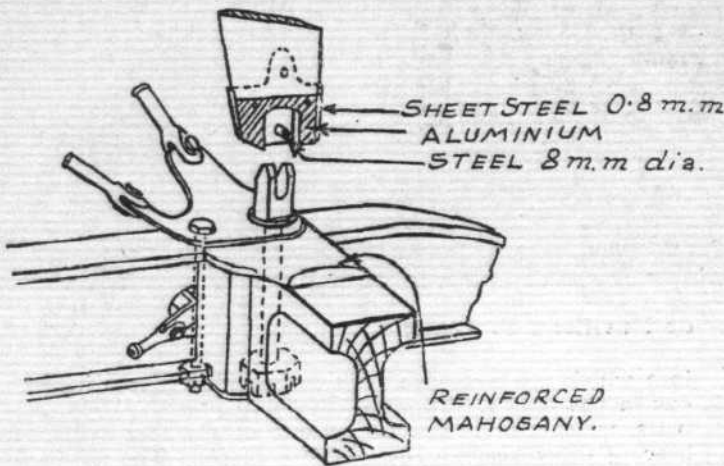


Fig. 8.—Inter-plane strut attachment.

3 mm. thick. In the front the fuselage has a rounded top. From the observer's seat vertical formers gradually carry the top into the rectangular section at the beginning of the tail plane.

The undercarriage (Figs. 9, 10 and 11) is very light in proportion to the heavy machine. It weighs 54 kg. Each

casing thus formed by covering its upper side with a layer of wood suitably hollowed out and secured to it with a wrapping of fabric. In order to better guide the axle in the slots in the struts this casing of wood is left square at this point, and entirely surrounds the axle. It is covered with sheet metal. The diagonal bracing of the undercarriage is in the form of stream line wire, and is only placed in the bay of the front chassis struts. In addition there is a horizontal tension wire running in front of the stream line cross-strut.

The tail-plane, which is of rectangular plan form with rounded corners, is so attached to the body that its angle of incidence can be varied from the pilot's seat, during flight, from $+2^\circ$ to $+5^\circ$, as in the Sopwith. For this purpose its front spar is so mounted as to be free to rotate, while the rear spar with its bracing is secured to a vertical tube placed in front of the stern post (see Fig. 13). This tube carries a thread engaging with an internally threaded bobbin, bolted to the stern post but free to rotate, operated by a hand wheel and cables, and forcing by its rotation the thread, and with it the vertical tube, up or down. The two elevator flaps, hinged to the tail plane, are not connected to one another. The rudder has a balanced portion as do many German machines.

The 12 cylinder Rolls-Royce motor develops, according to the firm's plate on it, 300 h.p. at 1,650 r.p.m., when the hourly consumption is 105 litres of petrol and 4.5 litres of oil. The speed is not to exceed 1,800 r.p.m. In general arrangement the engine is similar to older types of the same make, but it has four carburetors. The exhaust is either carried over the top plane or direct through short collectors slanting outwards from the body. The nose of the fuselage is formed by a radiator fitted with shutters over its upper part. Through an opening in the centre of the radiator

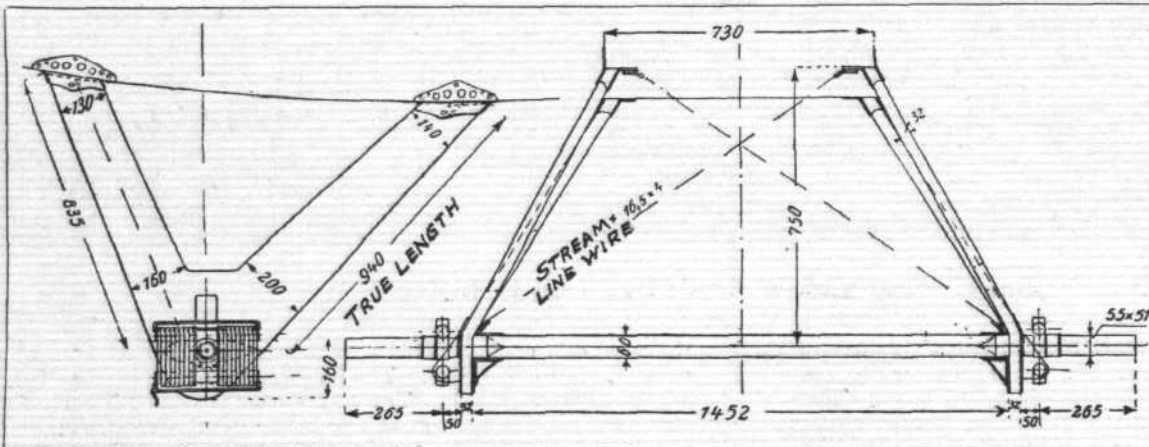


Fig. 9.—The undercarriage.

pair of struts is of solid wood and is not bound with fabric. Screwed to the struts are vertical strut-shoes of wood, which carry, in addition to the wheel axle, horizontal tubes for the attachment of the rubber shock absorbers. The axle rests between two cross-struts of wood, which are shaped to a fair shape and connected at the bottom by 3 mm. three-ply. (See upper left-hand corner of Fig. 10.) In order to cause no eddies during flight the axle is fitted into the stream line

projects the reduction gear of the engine, which reduces the speed of the airscrew to 900 r.p.m.

Under the front of the body is placed transversely the oil tank, which has a capacity of 21 litres. The main petrol tank, which is arranged for air pressure, has a capacity of 256 litres and is placed behind the pilot's seat. A gravity tank holding 28 litres is placed under the left top plane. Sufficient fuel is carried for a flight of about 2½ hours' duration. In another

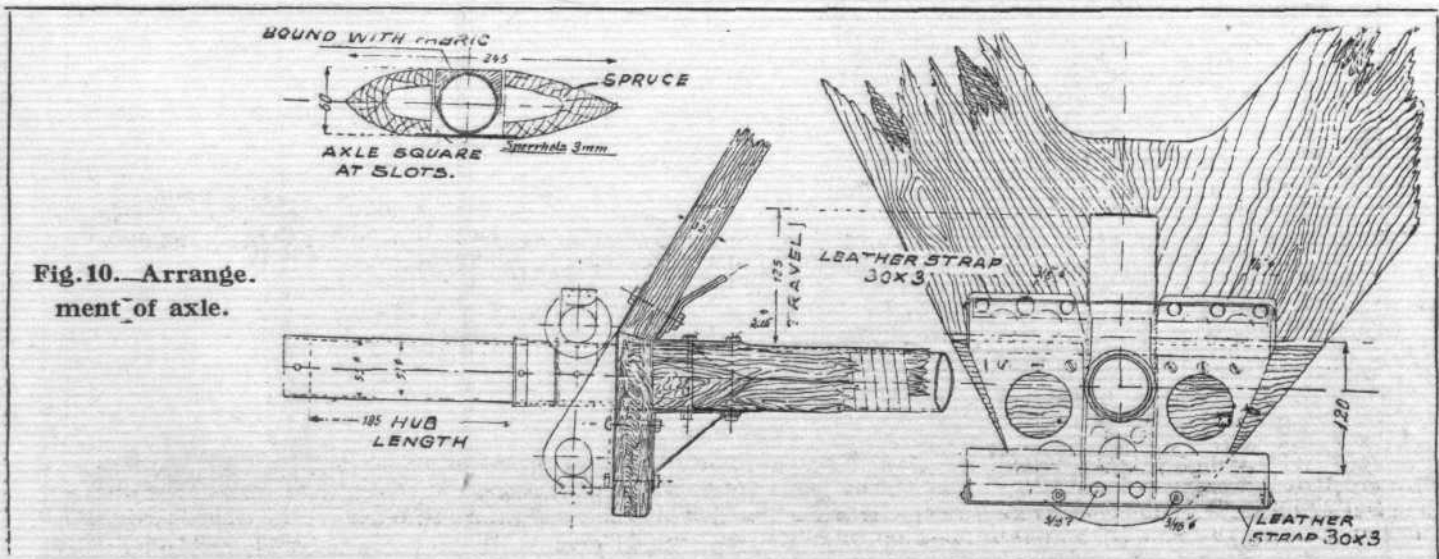


Fig. 10.—Arrangement of axle.

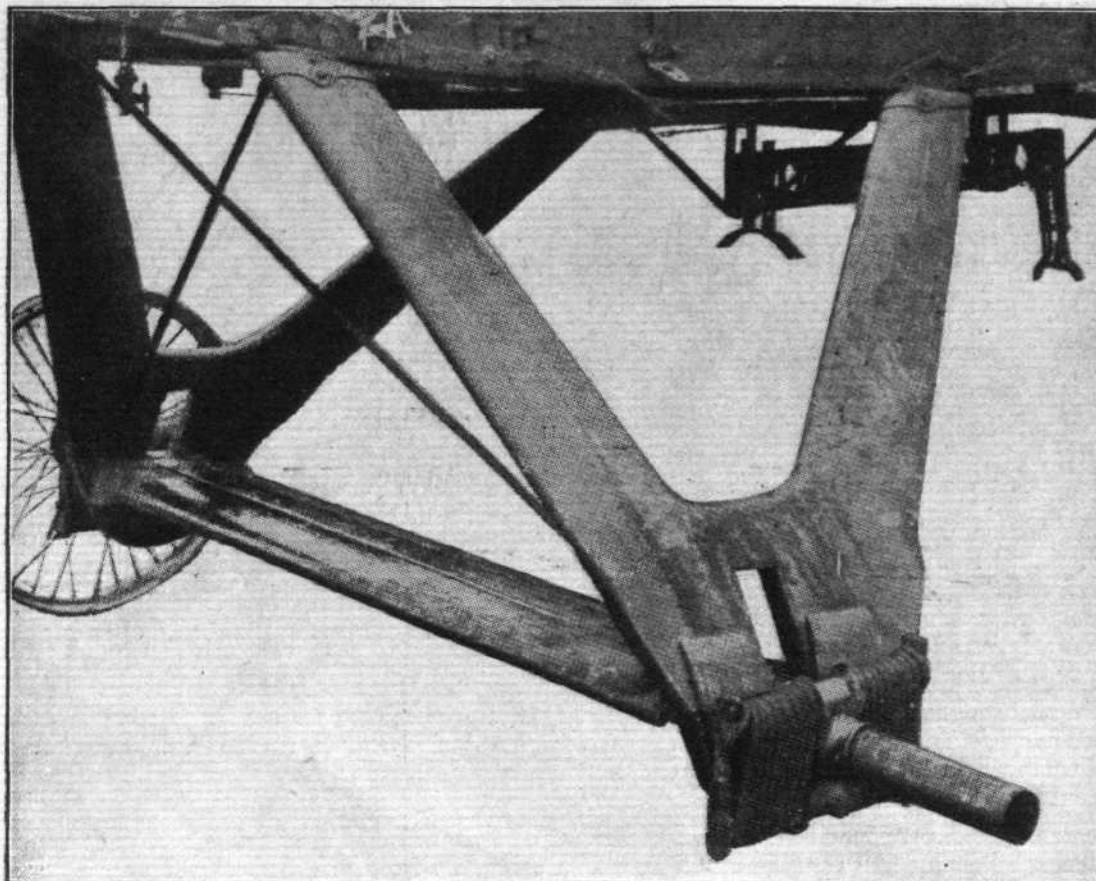


Fig. 11.—Undercarriage of the de Havilland IV biplane.

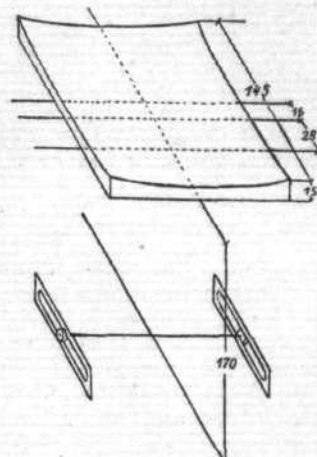


Fig. 12.—Bomb sight of the de Havilland IV biplane.

machine there is an additional tank holding 76 litres, which brings the capacity up to about $3\frac{1}{2}$ hours.

More recent machines have, instead of the one pressure tank, and mounted in the same place, two tanks placed side by side, each of which is provided with a supply pump driven by a small propeller. With this arrangement a spring-loaded valve is provided inside the tank, which returns any surplus of petrol to the tank. The two leads from the main tanks and that of the gravity tank are joined at the engine to an omnibus tube, to which is attached a manometer for controlling the tanks.

The machine is provided with complete dual control. The control lever of the observer is removable (see Fig. 16). The wing flaps are inter-connected. Their cables run on the outside of the wings along the leading edge. Each wing flap has two crank levers. The upper and lower flaps are connected by two stream line wires. In the same manner the elevator and rudder cables run on the outside of the fuselage. The rudder cables are in duplicate, while each of the elevator flaps has single control cables.

The equipment of the pilot's and observer's cockpits differs in individual machines. On an instrument board in the former, provided with illumination for night flying, are the following instruments: Speed indicator, revolution counter, altimeter, thermometer, clock, hand pressure pump, inclinometer, map board and compass. To the left of the pilot the various petrol pipes are so arranged that the different cocks are within easy reach. On the same side are arranged oil and petrol pressure indicators, a pressure pump fed from the gravity tank, and also on a common axis the throttle, spark advance lever, and mixture regulator for altitude work.

On the throttle rods a catch lever is so arranged that when the throttle is closed the lever for regulating the mixture at altitudes will return with it. To the right of the pilot are arranged the cables controlling the radiator shutters, the switch for night illumination, and shelf for signal cartridges. Petrol level indicators are not fitted.

In the observer's cockpit are placed: Speed indicator, altimeter, throttle and switch for night illumination. Observer's and pilot's cockpits are placed far apart on account of the main petrol tanks being placed between them. For

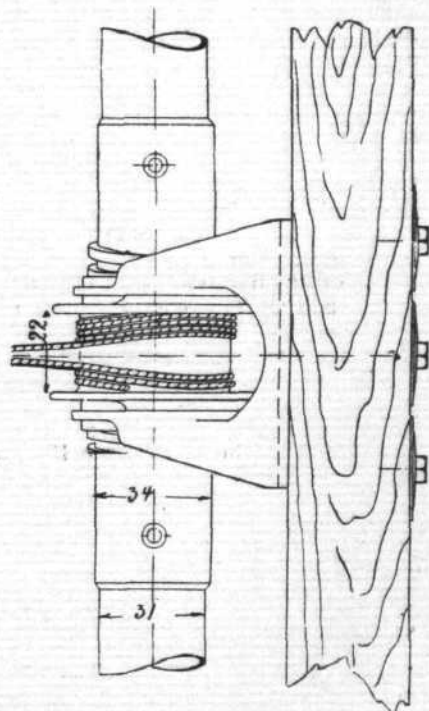


Fig. 13.—Tail plane incidence gear.

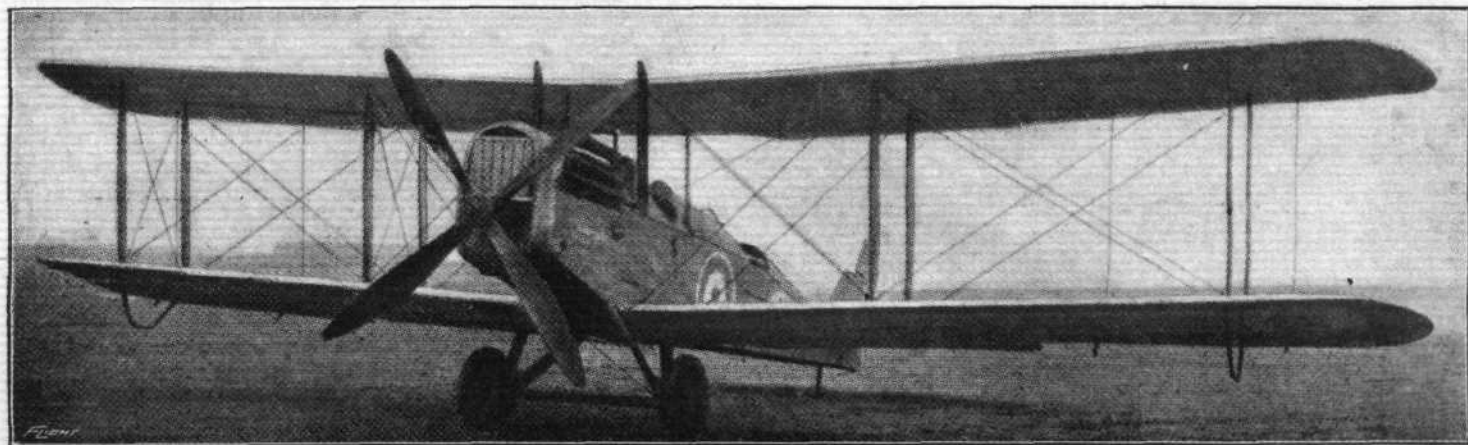


Fig. 14.—Three-quarter front view of the de Havilland IV biplane.



Fig. 15.—Three-quarter rear view of the de Havilland IV biplane.

communication between the occupants there is a speaking tube on the right, and on the left an endless cable passing over rollers in the two cockpits. Behind the observer's seat is the mounting for the camera with adjoining shelves for the slides. The presence of a wireless outfit could not be ascertained in any of the machines. The armament consists of two interconnected machine guns mounted on a turntable in the observer's cockpit, and of a fixed machine gun for the pilot mounted on the left of the top covering of the body. The control of the fixed machine gun is accomplished hydraulically by a control mechanism placed immediately behind the airscrew. This mechanism is driven off a pinion on the hub of the airscrew, and releases two shots for each revolution of the airscrew. Firing of the gun is accomplished from the control lever. A spring-controlled hand pump for filling the leads is mounted on the floor of the pilot's cockpit. For loading there is either a lever on the gun or a cable running over a roller, provided with a grip. A telescopic sight is placed to the right under the gun, in front of the rectangular wind screen. As the observer's seat is placed rather far aft a good field of fire is also obtained from here in an outward and forward direction.

The bomb gear, judging from the makeshift way in which the release gear is built, appears to have been added as an after-thought. Bomb racks, either arranged for four smaller or for one large bomb are placed under the lower wings and under the body. The release is accomplished from the pilot's seat by means of Bowden cable. The cables are either joined at the right of the seat or arranged separately on the outsides of the body. A sighting arrangement is built into the body immediately behind the rudder bar. It consists of a square plano-convex glass plate, 15 mm. thick at the edges and 5 mm. thick in the centre (see Fig. 12). Underneath this are three wire rods soldered at right angles to a fourth rod lying in the direction of flight. 17 cm. further down is another longitudinal rod, and a transverse rod working in longitudinal slots, and which can be locked in place by screws.

The weight of the machine empty, but including cooling water, was ascertained to be 1,110 kg. If the maximum useful load is assumed to be 590 kg. we obtain a total weight of 1,700 kg. As the area is 40.3 sq. m., the loading is $1,700 : 40.3 = 42$ kg./sq. m. The load per h.p. $1,700 : 300 = 5.7$ kg./h.p.

Weights.			
Kilogs.		Kilogs.	
Motor	390.0	Body accessories—	
Exhaust pipes ..	15.0	Seats, &c. ..	8.0
Radiator and water ..	76.9	Undercarriage ..	54.0
Airscrew	42.0	Tail skid ..	5.0
Petrol tanks	28.0	Controls	9.5
Oil tank	4.5	Wings	209.0
Engine accessories, leads, &c.	19.6	Bracing	31.0
Body with cowl ..	175	Armament supports	40.0
Tail plane—			
Incidence gear ..	2.5		1110.0

Loads.			
Kilogs.		Kilogs.	
Crew	150.0	Photographic outfit	10.0
Armament	73.6	Wireless arrangement	5.0
12 bombs, about ..	144.0	Fuel	205.0
Estimated useful load	590		Kilogs.
Weight of wings	5.2		kg. sq.m.

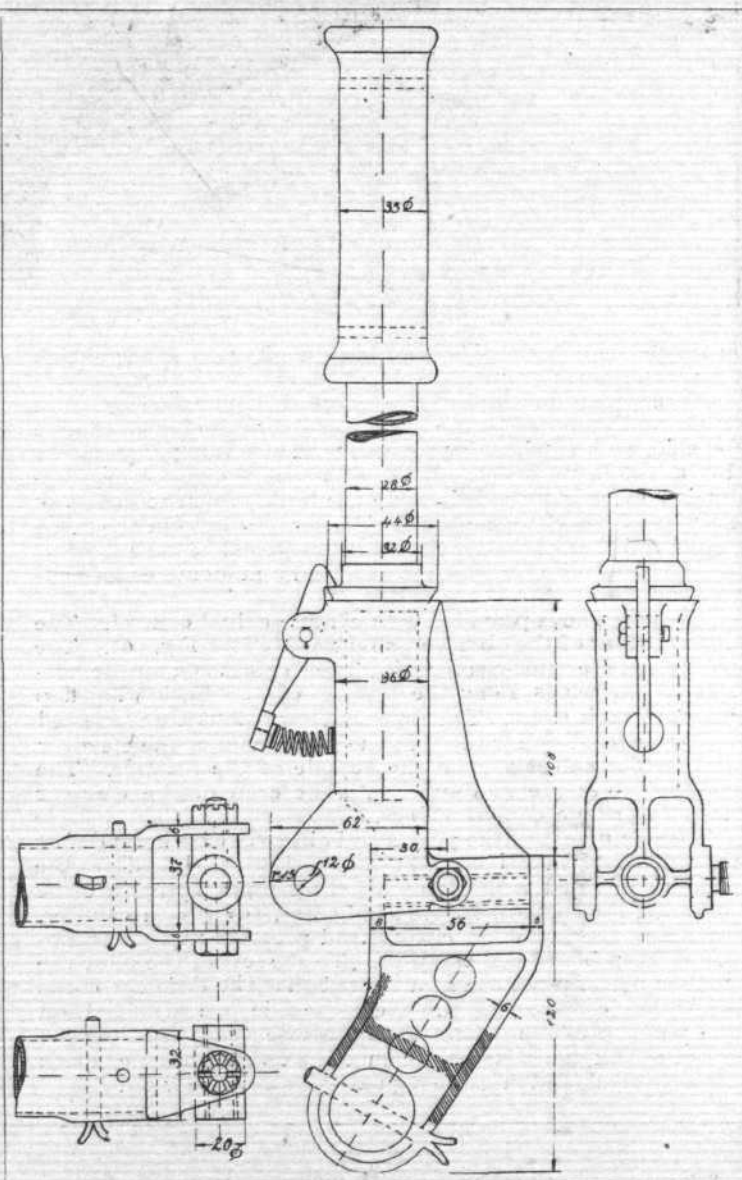


Fig. 16.—Control lever in the observer's cockpit of the de Havilland IV biplane.

No Women Pilots Wanted.

It is officially announced that women are not being enrolled by the Air Ministry for training in any branch of flying.

Aerial Mails in France.

ACCORDING to the *Petit Journal* a proposal to establish two aerial postal services—namely, between Paris and St. Nazaire, and between Paris, Marseilles, and Nice—is under consideration.

THE 180 H.P. MERCEDES AERO ENGINE.

[Issued by the Technical Department (Aircraft Production), Ministry of Munitions.]

THE following report on the design of the new 180 h.p. Mercedes engine is based on an examination of the engine (No. 35254) taken from the captured German Albatros biplane D.5.A. (G.97), which was shot down by anti-aircraft fire in the 5th Brigade area on November 14th, 1917, and the accompanying data on the design of the engine and the particulars of its general performance, have been compiled from results of tests carried out at the Royal Aircraft Factory.

The 180 h.p. Mercedes engine is the first engine of a new type to be used in service since the advent of the 260 h.p. Mercedes engines in the early part of last year. These 260 h.p. engines were apparently so successful that the 160 h.p. type have since been remodelled so as to introduce several of the leading features of the 260 h.p. practice. The result is seen in the 180 h.p. model, with which this report deals.

It necessarily follows from the above that this report will partake more or less of the character of a comparison between the 160 h.p. and 180 h.p. models. Frequent reference, therefore, is made in the text to the 160 h.p. engine, and in addition a table is given, showing the leading engine data of the two engines.

In many respects the design of this new engine is similar to the 160 h.p. Mercedes, which is now obsolescent. The cylinders are of the same construction and of the same bore and stroke as the 160 h.p., *i.e.*, 140 mm. x 160 mm., as also are most of the reciprocating parts; in fact, this engine might well be termed "The New 160 h.p. Mercedes."

Briefly described, the 180 h.p. Mercedes is a combination of the 160 h.p. and the new 260 h.p. Mercedes engines, and in view of this fact it will be unnecessary in this report to deal at length with the details of the design of those parts which are identical with the components of the above-mentioned engines, of which fully detailed reports have already been issued, and the design of which is now well-known in this country.

In comparison with the standard type 160 h.p. Mercedes, the new engine shows a marked improvement, both in the design as a whole and in its general performance during power and consumption tests, and as a comparison between the two engines the following comparative table of the leading particulars of the engines is herewith given:—

	160 h.p.	180 h.p.
Bore	140 mm.	140 mm.
Stroke	160 mm.	160 mm.
Compression ratio	4.50 : 1	4.64 : 1
Average b.h.p. and speed	162.5 at 1400	174 at 1400
B.M.E.P. (lbs. per sq. in.)	102.0 at 1400	109.1 at 1400
*Total weight of engine (dry)	618 lbs.	635 lbs.
Weight per b.h.p.	3.80 lbs.	3.65 lbs.
Fuel consumption per hour	94.2 pints	94.83 pints.
Fuel consumption per b.h.p. hr.	.58 pints	.545 pints.
Oil consumption per hr.	5.0 pints	7.3 pints.
Oil consumption per b.h.p. hr.	.031 pints	.042 pints.
Inlet valve opens	2° L.	T.D.C.
Inlet valve closes	35° L.	40° L.
Exhaust valve opens	63° E.	40° E.
Exhaust valve closes	13° L.	10° L.
Ignition timing (fully advanced)	30° E.	30° E.
Delivery of water pump		41.4 galls. per min.

* This weight is weight of engine (dry), excluding propeller hub and exhaust manifold.

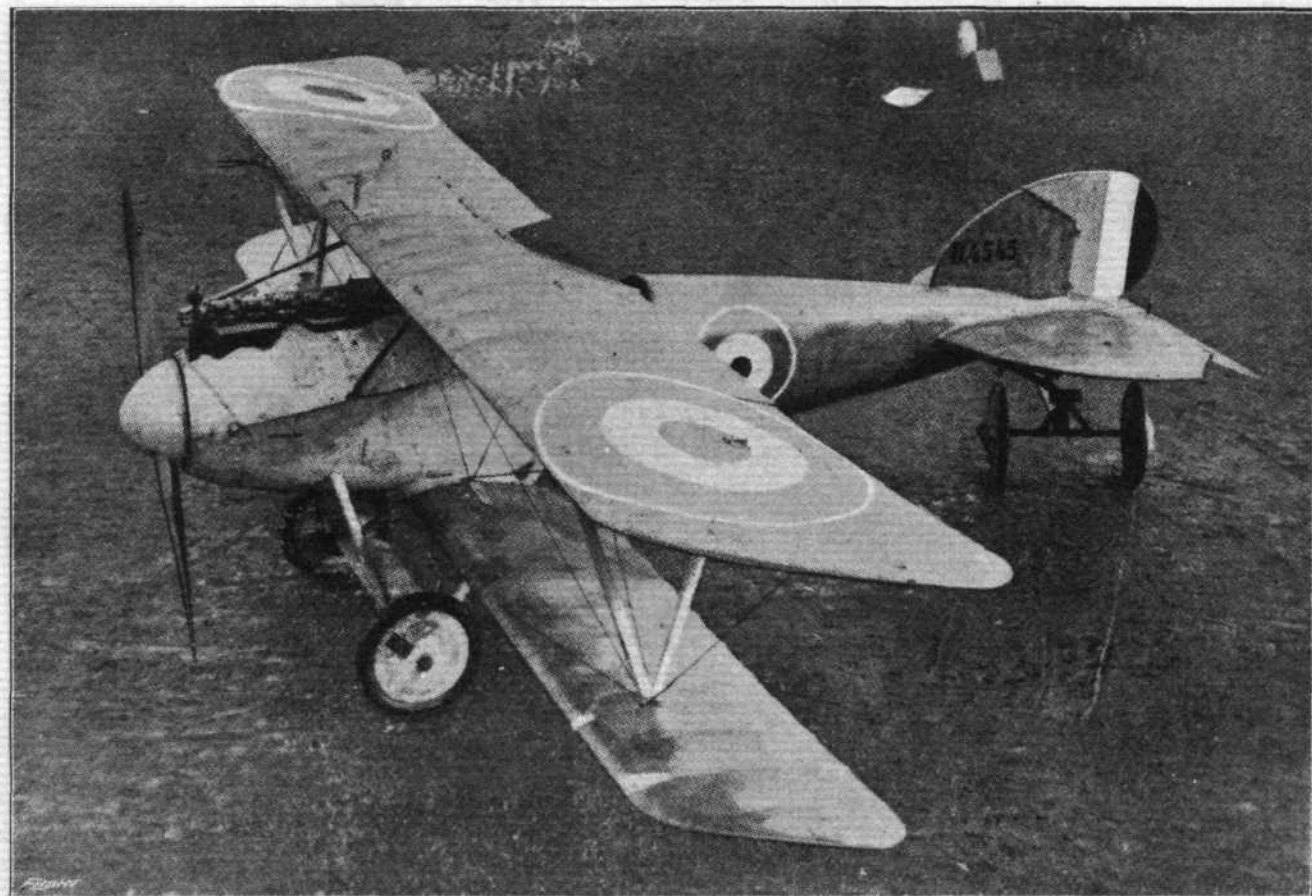
Constructional Details.

The six separate cylinders are exactly the same construction as those used in the standard 160 h.p. Mercedes engines, being built up entirely of steel, with the valve pockets screwed and welded into the cylinder heads, and the water jackets of pressed sheet steel welded in position. The pistons also follow the Standard Mercedes practice and are similar to those used in the 160 h.p. engines, being constructed with concave heads machined from steel forgings, which are screwed into the cast-iron skirts of the pistons and welded in position.

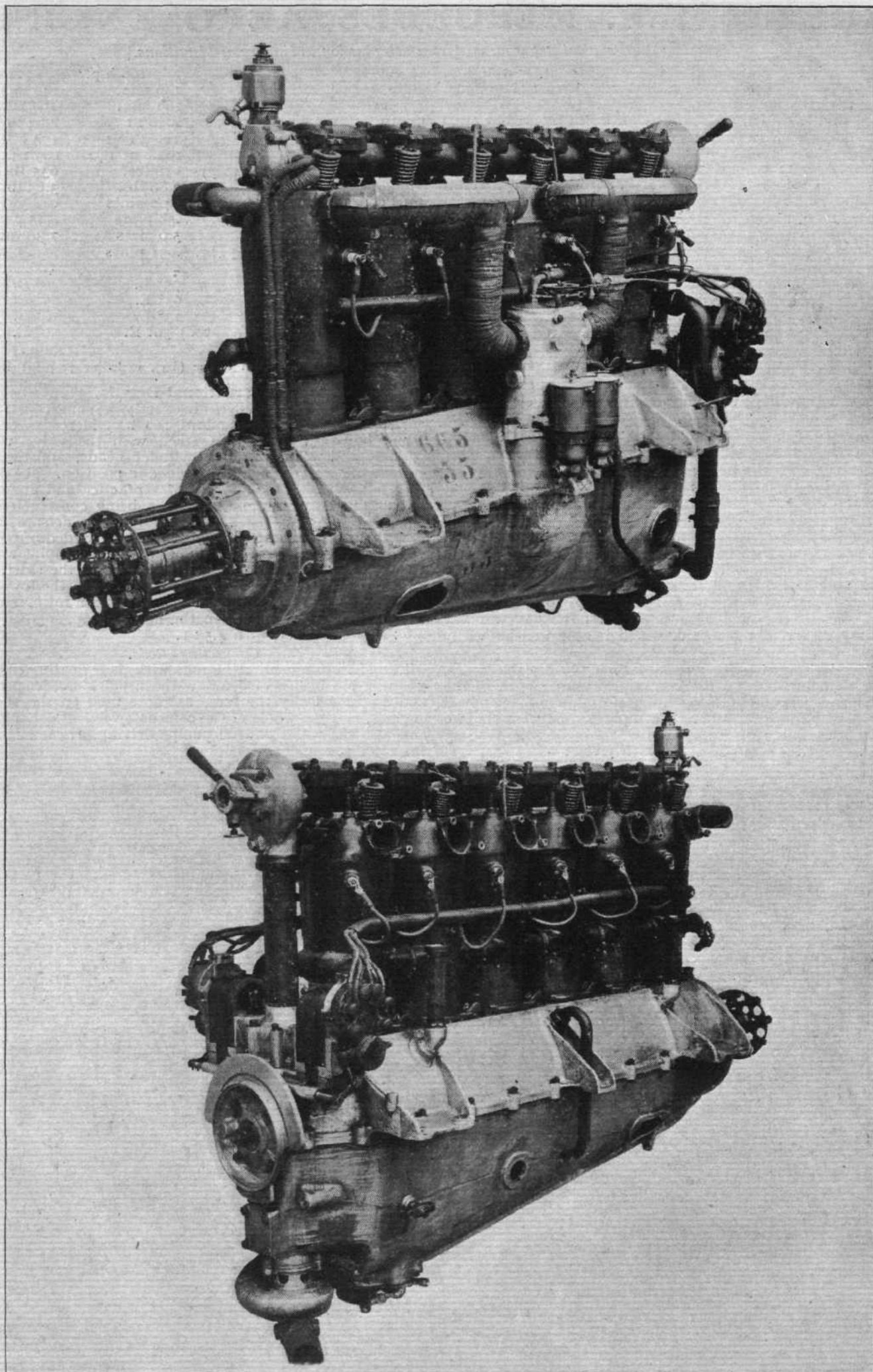
Three rings are provided above the gudgeon pins and one ring below, which is situated at the base of the skirt. The gudgeon pins are carried in lugs machined in the lower part of the steel piston crown. The compression ratio, it will be noticed, is slightly higher in the new 180 h.p. engines, being 4.6 : 1 as compared with 4.5 : 1.

Connecting Rods.

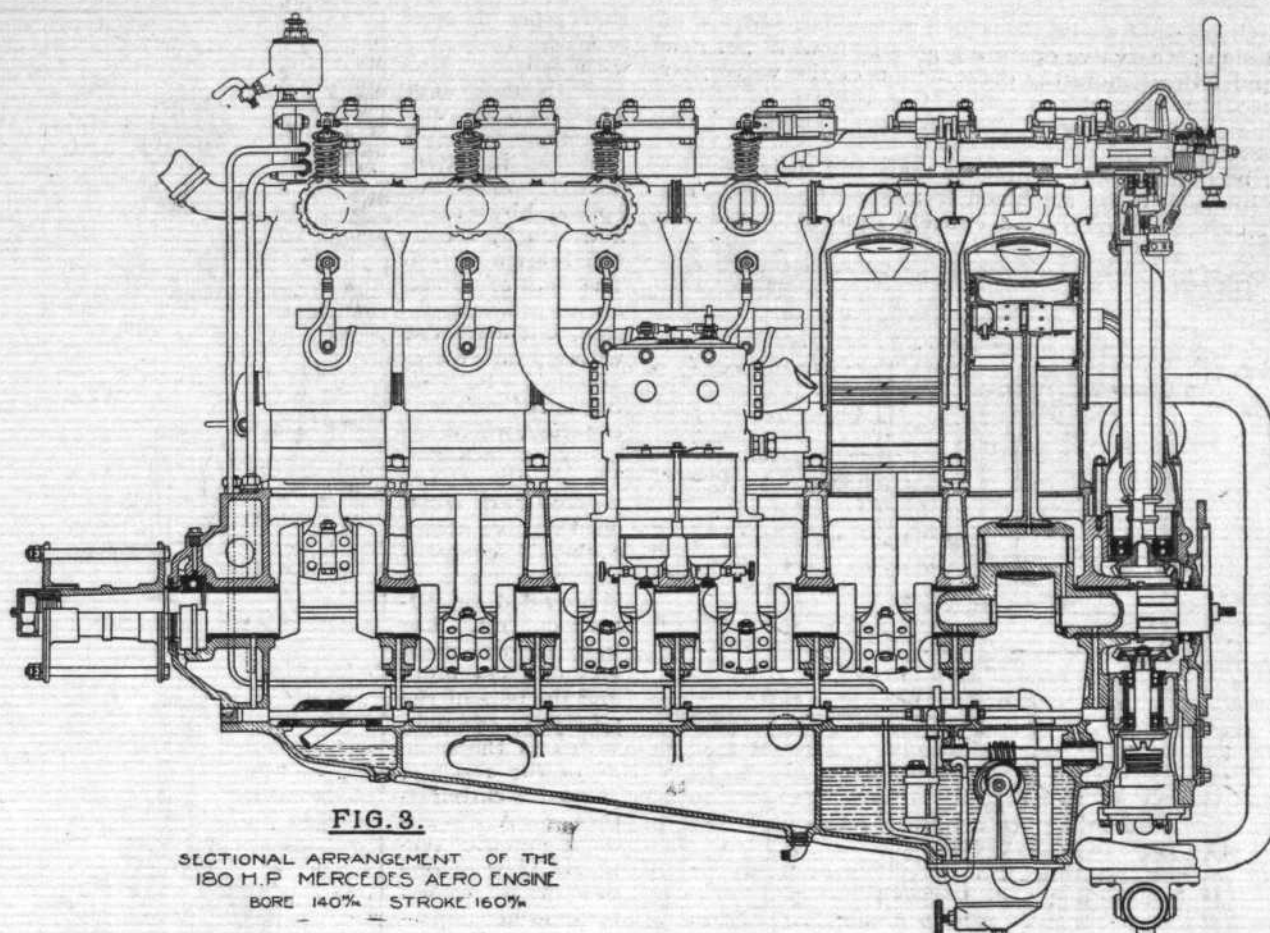
The H section connecting rods with their floating cast iron gudgeon-pin bushes also follow the usual Mercedes practice, and are identically the same as those used on the 160 h.p. engines, and the whole of the camshaft vertical driving shaft and also the water and oil pumps driving gear is similar to the 260 h.p. engines.



Albatros Scout D. 5 A. (G. 97), fitted with 180 h.p. Mercedes engine, showing radiator in centre of top plane.



Figs. 1 and 2.—The 180 h.p. Mercedes. Induction side and exhaust side of engine.


FIG. 3.

SECTIONAL ARRANGEMENT OF THE
180 H.P. MERCEDES AERO ENGINE
BORE 140% STROKE 160%

Crankshaft.

No alteration has been made to the general design of the crankshaft from the standard 160 h.p. type. The leading dimensions, clearances and method of lubrication of the journal and connecting rod bearing are the same, as shown in the general arrangement of the engine, Fig. 3, at end of report.

Crankcase.

The crankcase, whilst following the general construction of the 160 h.p. engines, also resembles in many ways the 260

h.p. type. The usual Mercedes practice of casting the lower half of the main bearing housings integral with the bottom half of the base chamber, and also the method of holding down the cylinders by long bolts which pass through the base chamber top half and secure the two halves of the crank-chamber, is adhered to.

Valve Gear.

The single inlet and exhaust valves of each cylinder, which work at an angle of 15° to the central axis of the cylinder

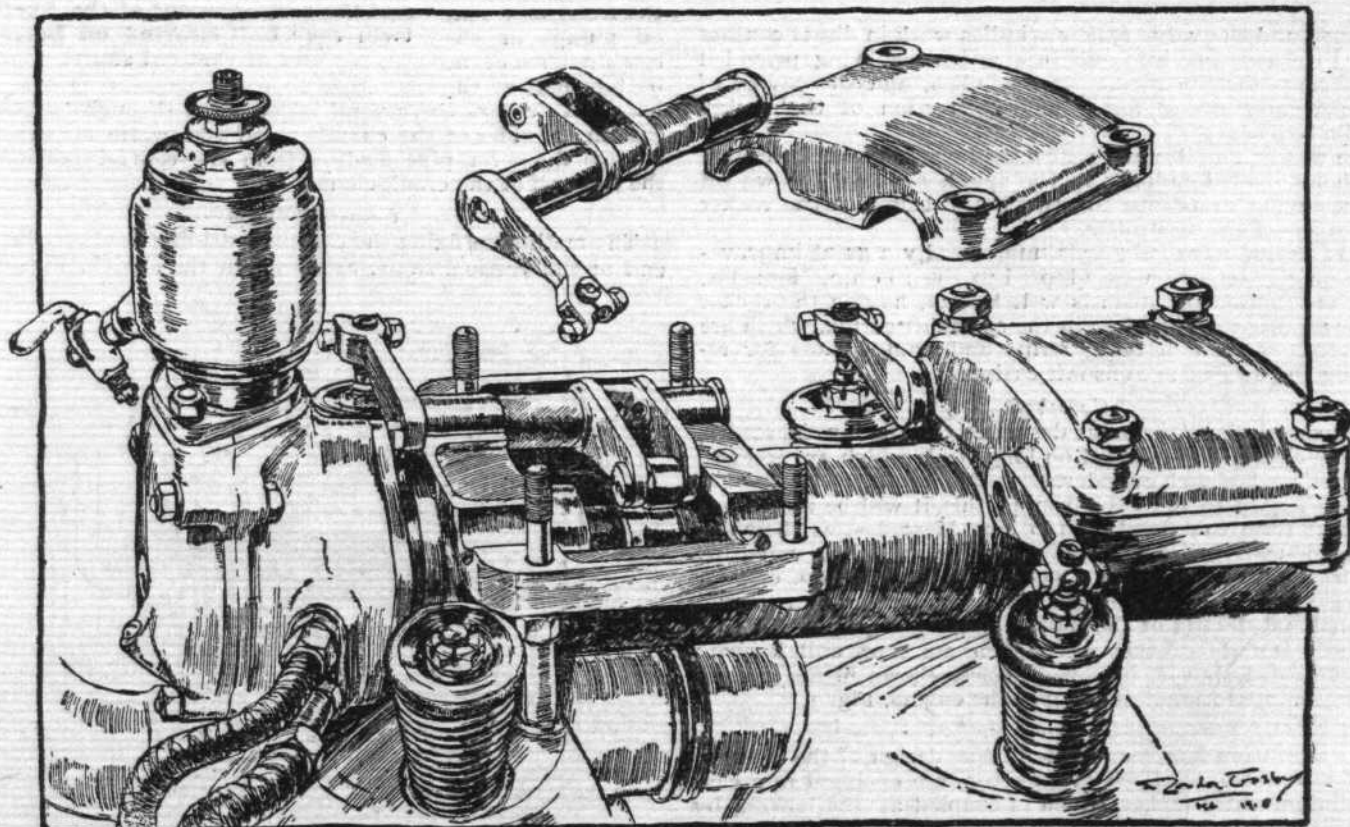


Fig. 4.—The overhead camshaft and new valve gear, showing detachable valve rockers and new design of air pump.

are interchangeable as in the 160 h.p. engines and are of similar design; the valve operating gear is, however, of new design, and follows more the construction of the valve gear on the 260 h.p. Mercedes engines. General details of this construction and working of the valve gear shown in the sketch, Fig. 4.

It will be noticed that the rocker arms and their spindles are now integral, being machined from steel forgings. The camshaft casing is constructed entirely from malleable-iron

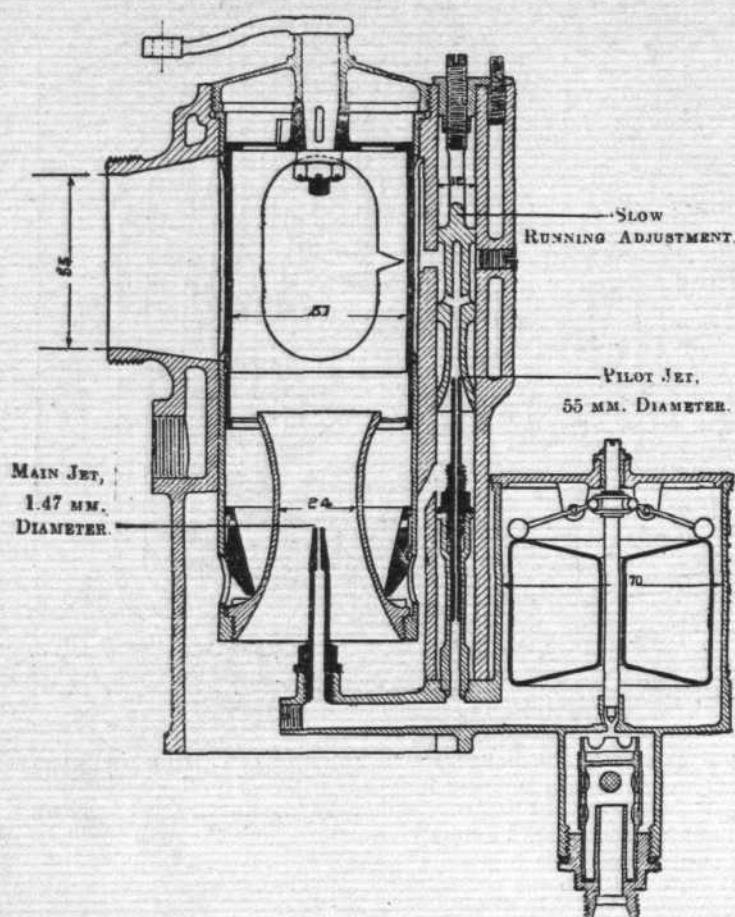


Fig. 5.—Section of carburettor (semi-diagrammatic).

castings, and the valve rocker spindles work in direct contact with the malleable-iron, no bronze bushes being provided as bearings for the rocker arm spindles, and the covers of the camshaft casing form the top portion of the rocker spindle bearings.

The rocker spindles are hollow, and are lubricated through two holes drilled radially in the spindles by oil thrown off the revolving cams into the two holes drilled in the rocker arm carrying the cam roller.

This design of valve gear is undoubtedly a great improvement on the arrangement adopted in the 160 h.p. Mercedes, the construction of which is well known, having the rocker arms working through slots in the camshaft casing, which are provided with felt-packing strips and baffle plates for retaining the oil in the camshaft casing.

Camshaft.

The camshaft is of similar design to the 160 h.p. Mercedes, and the casing is supported on long studs which are screwed into the head of each cylinder.

With regard to the valve timing, this, it will be noticed, is different from the standard 160 h.p. Mercedes, as shown in the comparative list of leading particulars. The valve lift has been increased from 0.440 in. on the 160 h.p. engines to 0.452 in. Only very minor differences occur in the actual dimensional details of the half compression gear in the new engine. Details of this mechanism are now well known; the general design is, however, clearly shown in the general arrangement sectional drawing of the engine, Fig. 3.

Carburettors.

No alteration has been made in the design of the twin-jet dual carburettors. Both carburettors are enclosed in a cast aluminium water jacket, which is coupled at the bottom by a water pipe to the delivery pipe of the water pump at the top of the water jacket of the rear cylinder to the top portion of the water jacket of the carburettors, as shown in Fig. 1.

Each carburettor feeds three cylinders by a branched induc-

tion pipe of steel tube which is lagged with asbestos cord and bound with adhesive tape. The throttles are, of course, interconnected, and are operated by a cable and also by a control lever and rod. The float chambers are of ordinary design, but are fitted with separate filters attached to the bottom of each float chamber, which are easily detachable. These filters are provided with needle-valve drain cocks. No compensation arrangement is provided for altitude control. The bore of the main jets is 1.473 mm., and the bore of the pilot jets, .558 mm., which is the same as in the 160 h.p. Mercedes carburetors. A semi-diagrammatic sectional view of one of these carburetors is reproduced in Fig. 5, for reference.

The air-intake to the carburetors is taken through the passage cast in the central portion of the top and bottom halves of the base-chamber, which forms an air chamber between the front and rear oil pumps in the lower portion of the bottom half of the base. Air enters the central air chamber through two holes cast in the sides of the chamber and also warm air through a large diameter pipe leading from the central portion of the top half of the crank-chamber.

Camshaft Drive.

The method of fixing the camshaft driving bevel at the top end of the vertical shaft, as shown in the sketch, Fig. 6, is

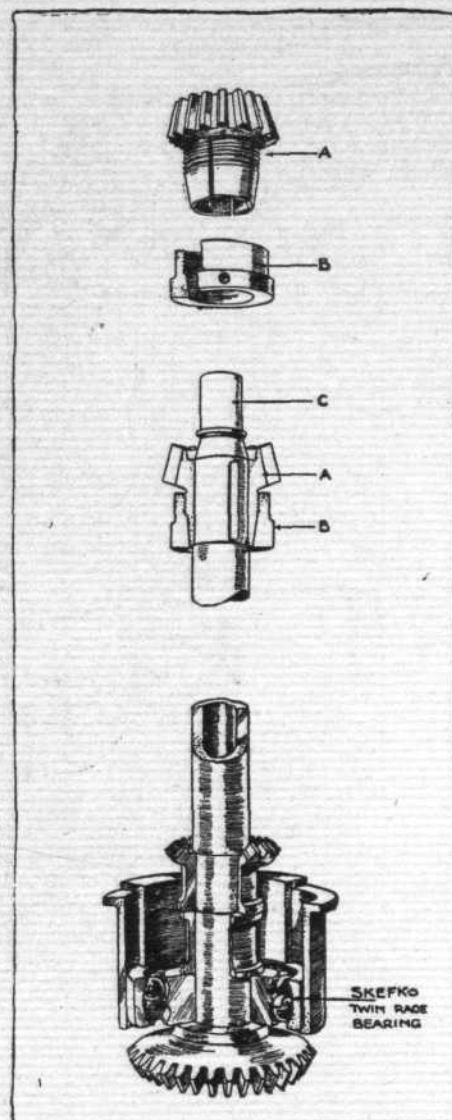


Fig. 6.—Method of attaching the camshaft driving pinion to the top end of the vertical driving shaft, and the arrangement of the Skefko twin race ball bearing on bottom end of vertical shaft.

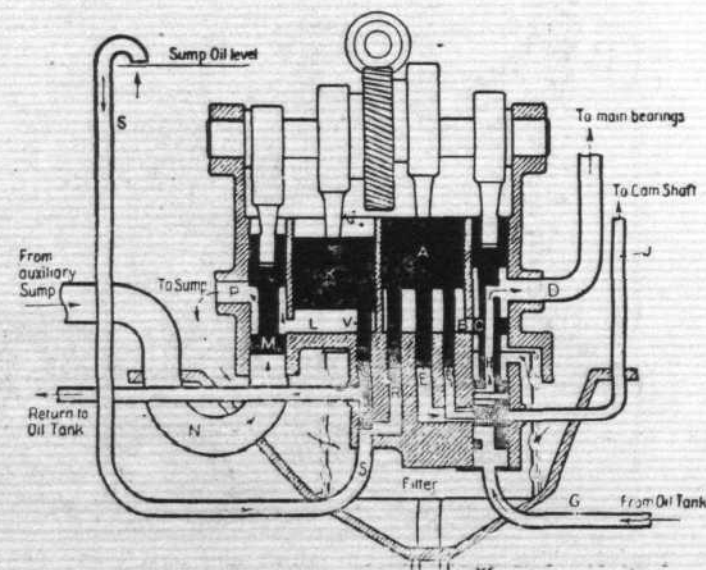


Fig. 7.—Diagrammatic section of oil pump.

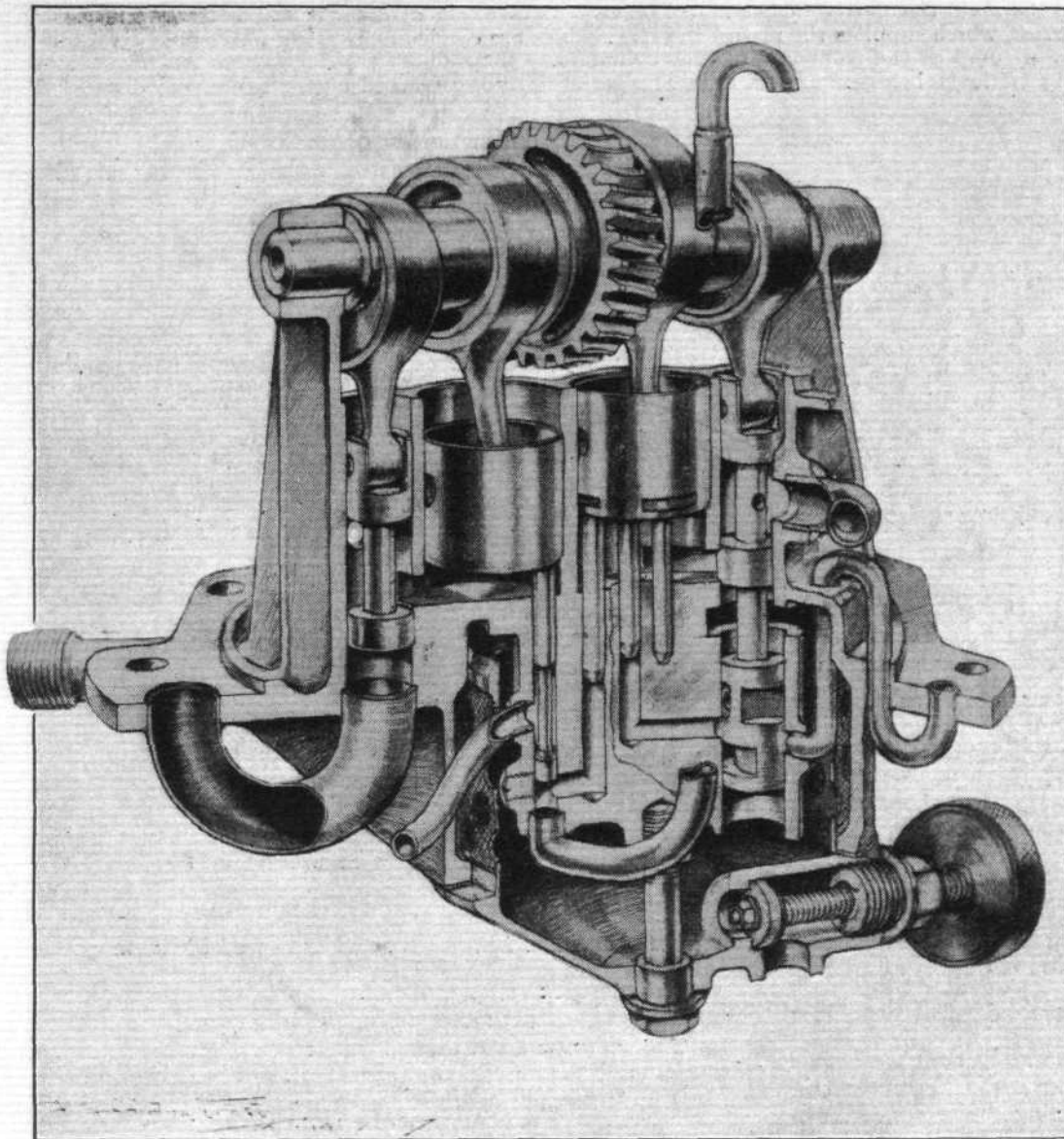


Fig. 8.—Sectional view of oil pump.

unusual. This method is similar to that adopted in the 260 h.p. engines, and is so designed as to allow of a certain amount of vertical adjustment of the bevels. The driving end of the vertical shaft is machined and ground parallel, 21 mm. diameter, and is fitted with a key, which fits in a key-way in the driving bevel; a ground taper on the bottom extension of the bevel, which is split by four saw cuts, and into which screws a ring nut, locks the bevel securely in position on the vertical driving shaft.

In the old 160 h.p. Mercedes engines the camshaft driving bevel on the vertical shaft is fixed by two bolts in the split extension of the bevel which is fitted on to a ground taper on the vertical shaft.

Referring to the sketch of the vertical shaft, it will be seen that the bottom end of the shaft is carried on a "Skefko" universal bearing, which is mounted inside a steel sleeve, carried at the rear end of the crankcase, and is driven off the floating bevel gear on the rear end of the crankshaft in the usual way.

Lubrication.

The old 160 h.p. type multiple-plunger oil-pump has been replaced by the larger pump, similar in design to the 260 h.p. Mercedes pump. The oil pump is attached to the bottom of the rear oil sump or reservoir, at the rear end of the base chamber.

The functions of the oil pump are perhaps most clearly demonstrated in the diagrammatic sectional drawing, Fig. 7, and in the sectional sketch of the pump, Fig. 8.

Briefly described, the functions of the oil pump and the system of lubrication may be sub-divided into three circuits.

(a) *The main pressure circuit*, in which oil is drawn from the main oil sump at the rear of the base chamber and is forced to the main crankshaft journal-bearings and connecting rod bearings, and also the camshaft bearings.

(b) *The supplementary pressure system*, which works in conjunction with the main high-pressure system, in which two auxiliary plungers of the main oil pump draw a small charge

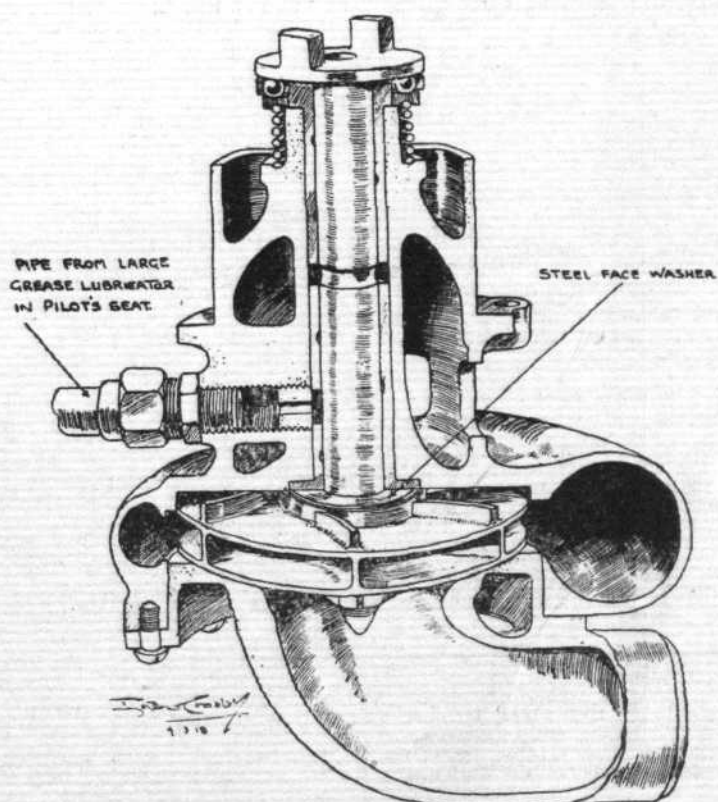


Fig. 9.—Sectional view of water pump.

of fresh oil from the service oil-tank at every stroke of the pump and force the charge into the main circulation system.

(c) The suction or scavenger circuit, which supplies the main oil sump from the auxiliary drain sump at the front end of the base chamber, the working oil level being maintained

Ignition is by two Bosch 3-point plugs fitted to each cylinder, one on either side of the cylinder below each valve head, and the H.T. cables are carried as usual in fibre tubes attached to the cylinders.

The ignition timing is fixed at the same period as in the

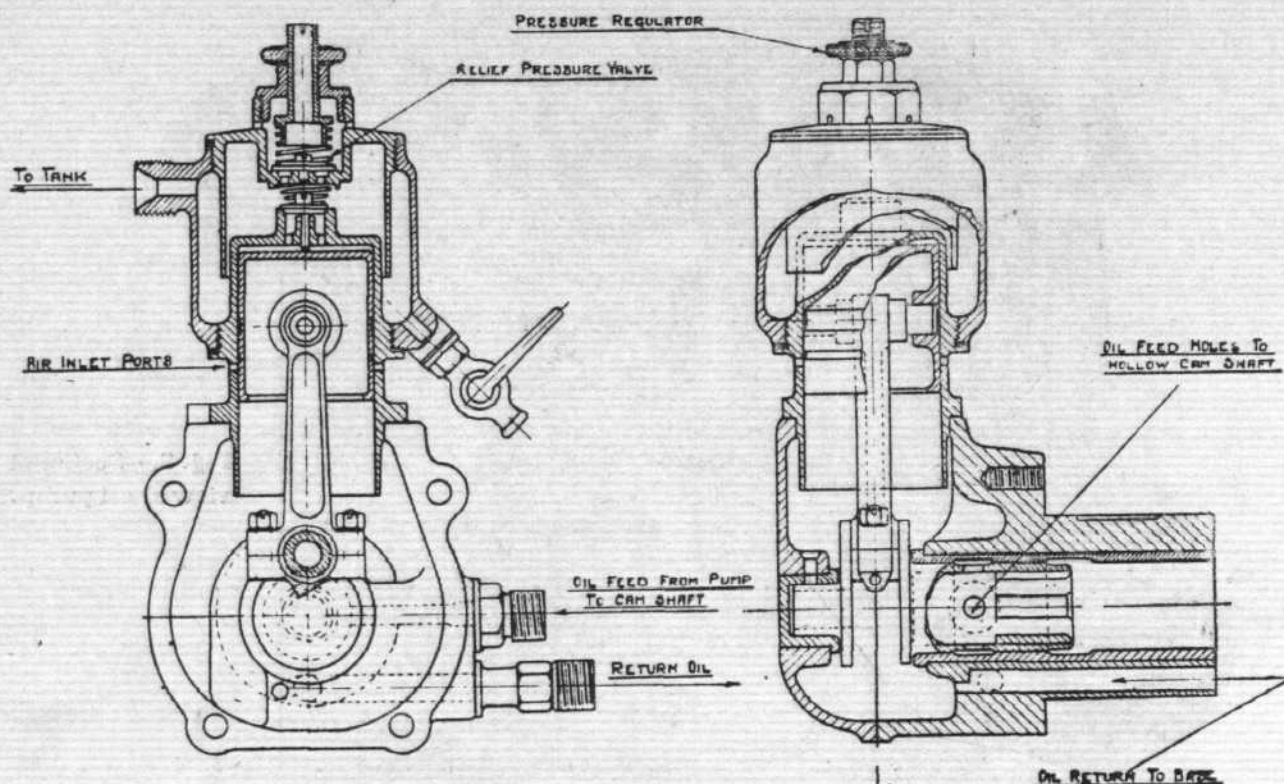


Fig. 10.—The new air pump.

in the rear sump by an auxiliary suction pump which draws off the oil above the oil level through an overflow pipe and returns it to the oil tank.

An oil sight level indicator is provided in the side of the rear oil sump.

Full details of the functions and operation of this somewhat complicated oil pump are given in the previous report on the 260 h.p. Mercedes engine.

Ignition.

Two Z.L.6 type Bosch magnetos are fitted at the rear end of the engine and are driven directly off the camshaft vertical driving shaft by bevel gears, as in the 260 h.p. engines.

160 h.p. engines, i.e., 30° E., and the speed of the magnetos is 1.5 times engine speed.

Firing order: 1, 5, 3, 6, 2, 4.

Water Circulation System.

The water pump in the old type 160 h.p. Mercedes engines is situated above the magneto drive, and is driven directly off the vertical camshaft driving shaft. In the 180 h.p. engine the Standard 260 h.p. type water pump has been adopted.

This is now driven, as in the large engines, by a dog clutch off the bottom end of the lower vertical shaft, which also drives the oil pump worm driving shaft, as shown in the sectional arrangement, Fig. 3.



Front view of Albatros Scout G. 97, showing exhaust manifold.

The water pump spindle is provided with a spring-loaded face-washer of steel in place of a gland, and the spindle is lubricated by hand, as in the 260 h.p. engines, by a large screw-down grease lubricator accessibly arranged on the pilot's seat. Details of this water pump are clearly shown in the sketch, Fig. 9.

The Air Pump.

This is of a new design, and is now driven off the front end of the camshaft, as in the 260 h.p. engines. The piston and barrel of the air pump are made of cast iron, and the piston is operated by a small connection rod of bronze and a double webbed crank, as shown in the sectional sketch, Fig. 10. The air pump crankshaft is provided with four serrations which fit into the corresponding splines cut on the inside of the hollow camshaft. The bore of the pump is 40 mm., and the stroke is 40 mm.

Air inlet ports are drilled in the lower portion of the pump barrel and are uncovered by the piston at the bottom of its stroke, and the delivery check valve is situated in the head of the pump barrel. A regulating valve is provided directly above the check-valve, the released air escaping through the centre of the hollow adjusting screw, and also through six small holes drilled radially in the screwed cap which forms the seating of the regulating valve.

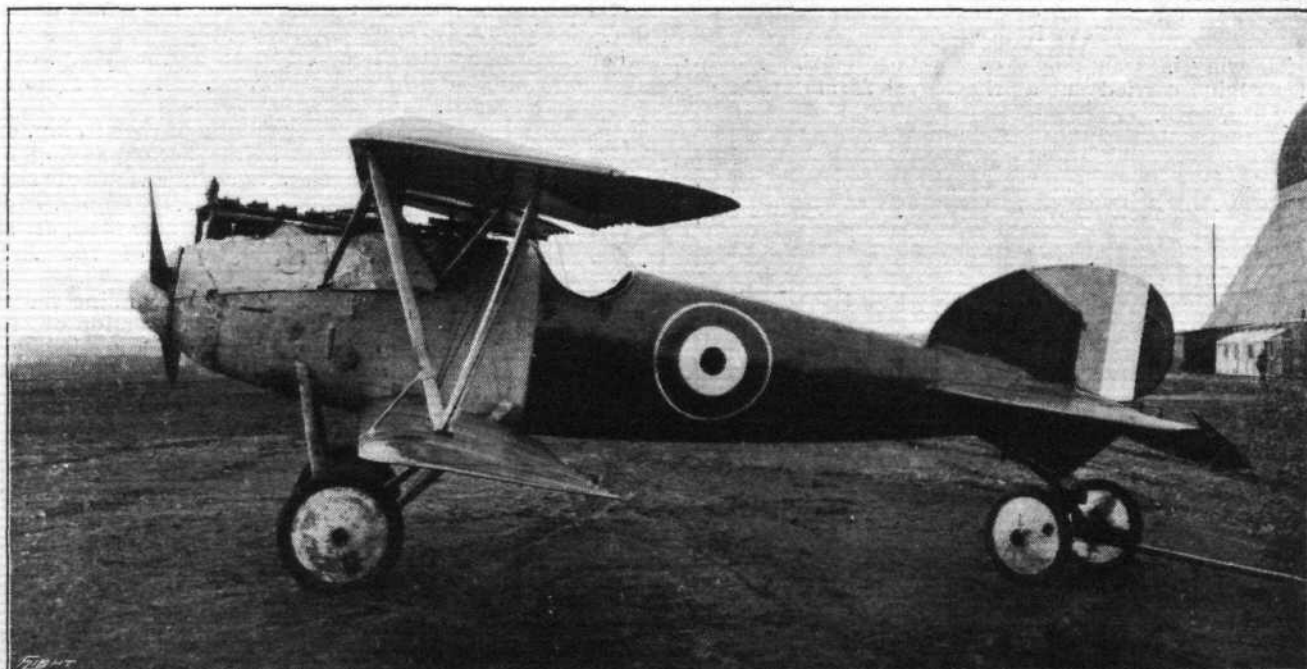
A self-contained oil trap is provided by the gun-metal jacket which surrounds the barrel of the air pump. This is fitted with a drain cock, as shown in the sketch. The air pump piston and crankshaft are lubricated by the excess oil in the camshaft casing.

The main oil lead from the oil pump to the hollow camshaft is taken through a passage drilled in the crank-chamber of the air pump, the oil entering the camshaft through four 5 mm. holes drilled radially in the hollow air pump crankshaft, which register with a groove cut in the inside of its bearing.

Engine Data.

Number and arrangement of cylinders	Six, vertical, separate.
Bore	140 mm. = 5.51 ins.
Stroke	160 mm. = 6.30 ins.
Stroke/bore ratio	1.142 : 1.
Area of one piston	23.84 sq. ins. = 153.9 sq. c.
Total piston area of engine	143.04 sq. ins. = 924 sq. c.
Stroke volume of one cylinder	150.28 cu. ins. = 2,463 c.c.
Total stroke volume of engine	901.68 cu. ins. = 14,778 c.c.
Volume of clearance space	41.3 cu. ins. = 676.64 c.c.
Compression ratio. Total volume/clearance volume.	4.64 : 1.
Normal b.h.p. and speed	174 b.h.p. at 1,400 r.p.m.
Piston speed	1,470 ft. per min.
Brake mean pressure	109.1 lbs. sq. in.
Cu. ins. of stroke volume per b.h.p.	5.18 cu. ins.
Sq. in. of piston area per b.h.p.	0.823 sq. in.
B.h.p. per cu. ft. of stroke volume.	334.0.
B.h.p. per sq. ft. of piston area	175.0.

Direction of rotation of crank and propeller.	Anti-clockwise facing propeller.
Lubrication system	Forced, multiple plunger pump.
Oil consumption per hour	7.3 pints = 8.21 lbs.
Oil consumption per b.h.p. hour.	0.642 pint = 0.047 lb.
Oil pressure	20 lbs. sq. in.
Volume of oil carried in base-chamber.	17 pints.
Number and type of carburettor.	One dual Mercedes, twin-jet.
Diameter of chokes	0.945 in. = 24 mm.
Bore of main jets	0.058 in. = 1.472 mm.
Bore of pilot jets	0.022 in. = 0.559 mm.
Fuel consumption per hour	94.83 pints = 85.32 lbs.
Fuel consumption per b.h.p. hr.	0.545 pint = 0.491 lb.
Inside diameter of induction pipes	2.126 ins. = 54 mm.
Number and type of magnetos	Two, Bosch, Z.L.6.
Firing sequence of engine	1, 5, 3, 6, 2, 4.
Ignition timing (fully advanced).	30° early.
Speed of magnetos	1.5 engine speed.
Inlet valve opens	Top dead centre.
Inlet valve closes	40° late.
Diameter of inlet valve (smallest diam.) = <i>d</i> .	2.677 ins. = 68 mm.
Lift of inlet valve = <i>h</i> .	0.453 in. = 11.5 mm.
Area of inlet valve opening (w.d.h.)	3.81 sq. ins. = 24.58 sq. c.
Mean gas velocity through inlet valve	153.4 ft. per sec.
Clearance of inlet tappet	0.017 in. = 0.432 mm.
Exhaust valve opens	40° early.
Exhaust valve closes	10° late.
Diameter of exhaust valve (smallest diam.) = <i>d</i> .	2.677 in. = 68 mm.
Lift of exhaust valve = <i>h</i> .	0.453 in. = 11.5 mm.
Area of exhaust valve opening (w.d.h.).	3.81 sq. ins. = 24.58 sq. c.
Clearance of exhaust tappet	0.014 in. = 0.355 mm.
Diameter of inlet and exhaust ports	2.165 ins. = 55 mm.
Diameter of water pump inlet	1.692 ins. = 43 mm.
Diameter of water pump outlet	1.575 ins. = 40 mm.
Ratio of water pump speed to crankshaft speed.	1.5 : 1.
Delivery of water pump at normal speed	41.4 gals. per min.
Inlet water temperature	64° Cent.
Outlet water temperature	74° Cent.
Water jacket capacity of one cylinder.	1,280 c.c.



Side view of G. 97.

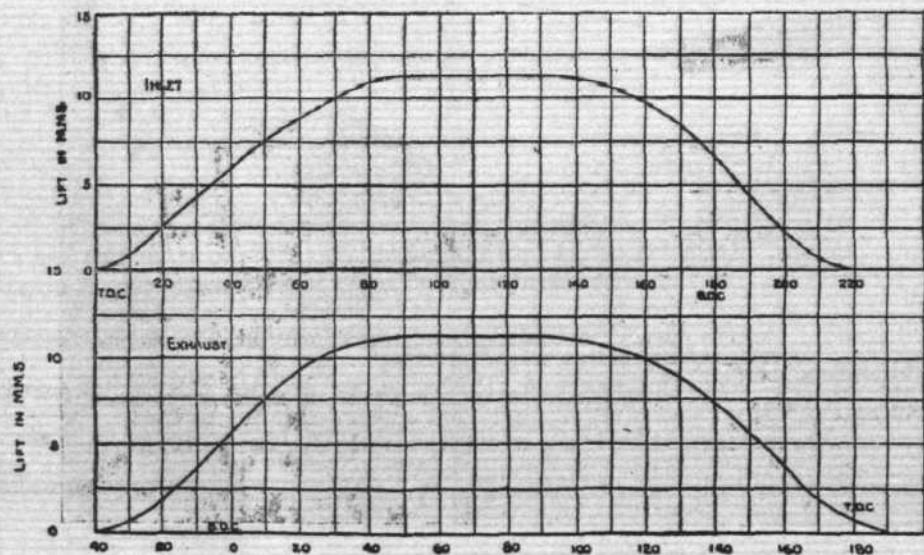
General Analysis of Weights.

Description of Part.	No. per set.	Average Unit weight.	Weight of complete set.	Percentage of Total Weight.
Cylinders, (bare) ..	6	19.25	115.50	17.5
Pistons, complete with rings and gudgeon pins	6	6.85	41.10	6.23
Connecting rods, with gudgeon pin bushes	6	5.00	30.00	4.55
Valves, complete with springs, &c.	12	1.31	15.74	2.39
Crankshaft (bare) ..	1	70.00	70.00	10.60
Camshaft (bare) ..	1	7.75	7.75	1.17
Camshaft casing with bearings and covers	1	27.63	27.63	4.18
Valve rockers ..	12	.87	10.50	1.59
Half compression gear (complete)	1	7.00	7.00	1.06
Vertical driving shaft (complete) including casing, oil pump, drive, and floating bevel)	1	17.50	17.50	2.66
Base chambers (top half) ..	1	72.25	572.2	10.92
Base chamber (bottom half) ..	1	100.00	100.00	15.16
Carburettors ..	one dual	16.75	16.75	2.54
Induction pipes (lagged asbestos)	2	5.00	10.00	1.52
Water pump (complete) ..	1	7.75	7.75	1.17
Oil pump (complete) ..	1	13.25	13.25	2.00
Air pump (complete) ..	1	4.75	4.75	.72
Magnetos (complete) ..	2	14.00	28.00	4.25
Water piping ..	—	3.25	3.25	.49
Propeller hub (complete) ..	1	12.50	12.50	1.90
Ignition wiring (complete) ..	2	2.00	4.00	.61
Exhaust manifold ..	1	13.00	13.00	1.97
Miscellaneous parts ..	—	31.78	31.78	4.82
Total weight of complete engine (dry) (with propeller hub and exhaust manifold) ..	..	660 lbs.	100.00	

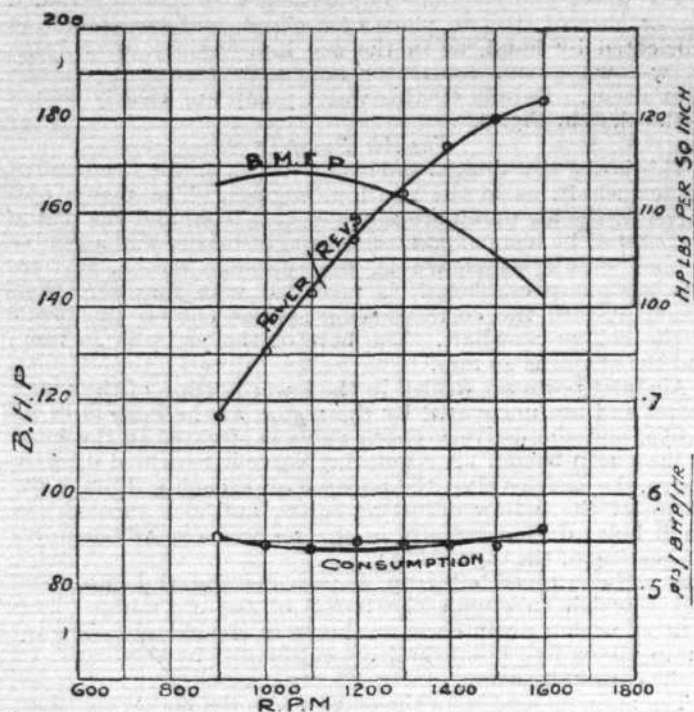
Weights.	lbs.
Weight of engine complete, dry, including propeller hub and exhaust manifold	660.0
Weight per b.h.p. ..	3.79
Weight of exhaust manifold ..	13.0
Weight of oil carried in engine ..	19.125
Weight of fuel and oil per hour ..	93.53
Gross weight of engine in running order, less fuel, oil and tanks, but including cooling system, at 0.64 lb. per b.h.p.	773.0
Weight per b.h.p.	4.44
Gross weight of engine in running order, with fuel, oil and tanks for six hours. (Tanks at 10 per cent. weight of fuel and oil.)	1,390.3
Weight per b.h.p.	8.00

Test Report.

The following is a summary of a report of the 180 h.p. Mercedes engine carried out at the Royal Aircraft Factory, February 6th, 1918.



Valve lift diagram.



Power and consumption curves corrected to 760 mm Barometer. Open exhaust t.

The engine was erected on test bed, and coupled to a Heenan and Froude dynamotor, and power readings taken at various speeds, simultaneous fuel and oil consumption readings being taken. The results of these tests are shown graphically on the curves attached to this report.

These curves show the following readings.

R.p.m.	1300	1500
B.h.p.	165	180
B.m.e.p.	112	105.5
Fuel consumption in pints per b.h.p. hour.	.540	.555
Normal engine speed	1,400 r.p.m.	
Average b.h.p.	174	
Average petrol consumption	.545 pint per b.h.p. hr.	
Average oil consumption	.042 pint per b.h.p. hr.	

During a previous test, the engine was run up to 1,700 r.p.m., at which speed 197.5 b.h.p. was recorded, but at this speed the engine was found to be incapable of giving constant power.

The engine was run at 1,400 r.p.m. for the purpose of calibrating the output of the water pump, which delivered into a graduated tank at the rate of 41.4 gallons per minute.

Owing to the fact that during the above test it was found to be impossible to tune up the engine, the power developed does not probably represent its best performance, as from other data and tests of the engine a normal b.h.p. of 179.5 at 1,400 r.p.m. and a maximum b.h.p. of 188 at 1,500 r.p.m. has been recorded.

Further details of the 180 h.p. engine are given in the accompanying list of particulars, and three views of the latest types of fast enemy scouts, in which this new engine is now used, are shown in the photographs of the Albatros Biplane.

An interesting streamline radiator is fitted in the centre section of the top plane, details of which are being issued in a separate report on the Albatros biplane.



Interrupting the Festivities.

A FRONTIER message, reports the Times correspondent at the Hague on June 14th, says that while a number of German officers were holding high festival at the Château of Moerkerke, a Belgian village near the Dutch frontier, a British aeroplane dropped a bomb. It scored a direct hit on the château, partially destroying it, and killing and wounding a number of Germans, including several officers.

THE ROLL OF HONOUR.

The following casualties are announced by the Air Ministry:—

Killed.

2nd Lieut. C. W. Alloway, R.A.F.
 2nd Lieut. C. E. Anketel, R.A.F.
 Lieut. F. P. Ayles, Gren. Gds. and R.A.F.
 2nd Lieut. A. M. Backler, Lond. Regt. and R.A.F.
 2nd Lieut. R. P. Balch, R.A.F.
 2nd Lieut. F. Banks, Essex Regt. and R.A.F.
 Lieut. V. L. Barber, R.A.F.
 2nd Lieut. L. F. Barton, R.A.F.
 Capt. E. L. Benbow, R.F.A. and R.A.F.
 2nd Lieut. C. C. Bevington, R.A.F.
 2nd Lieut. F. H. H. Biddle, R.A.F.
 2nd Lieut. R. R. Bourner, R.A.F.
 2nd Lieut. R. A. H. Brittain, R.A.F.
 Lieut. S. Burnett, Bedford Regt. and R.A.F.
 Lieut. F. W. Butt, R.A.F.
 Lieut. S. Chapman, R.A.F.
 2nd Lieut. J. N. Clitheroe, R.A.F.
 2nd Lieut. C. A. Crysler, R.A.F.
 Lieut. J. J. Daly, R.A.F.
 2nd Lieut. B. A. P. L. D. D'Etchegoyen, R.A.F.
 2nd Lieut. H. S. A. Dunlop, R.A.F.
 2nd Lieut. S. G. Dyson, R.A.F.
 2nd Lieut. A. O. Farmer, R.A.F.
 2nd Lieut. D. M. Filgate, R.A.F.
 2nd Lieut. G. E. Ffrench, R.A.F.
 2nd Lieut. C. A. C. Fullerton, R.A.F.
 Capt. A. C. Garnons-Williams, S. Wales Bord. and R.A.F.
 Capt. H. E. Glanville, W. India Regt. and R.A.F.
 2nd Lieut. J. Headlam, R.A.F.
 2nd Lieut. F. M. C. Houghton, R.A.F.
 Lieut.-Col. D. H. Hyde-Thompson, R.A.F.
 2nd Lieut. C. E. Johnson, R.A.F.
 2nd Lieut. J. J. Jones, R.A.F.
 2nd Lieut. T. Jowett, R.A.F.
 2nd Lieut. C. G. Joyce, R.A.F.
 2nd Lieut. W. J. Kelsey, R.A.F.
 2nd Lieut. R. Lardner, R.A.F.
 2nd Lieut. V. C. Lashford, R.A.F.
 Lieut. H. P. W. Loughton, R.A.F.
 Capt. R. A. Little, D.S.O., D.S.C., R.A.F.
 2nd Lieut. R. W. Locheed, R.A.F.
 Capt. W. C. Lodersymonds, Wilts. Regt. and R.A.F.
 2nd Lieut. F. B. Love, R.A.F.
 Lieut. T. H. Lucas, Hamps. Regt. and R.A.F.
 Lieut. L. F. D. Lutyens, R.A.F.
 2nd Lieut. J. E. Machin, R.A.F.
 Capt. T. F. Le Mesurier, R.A.F.
 2nd Lieut. T. A. McClure, Con. Ran. and R.A.F.
 Capt. F. H. McMaster, R.A.F.
 2nd Lieut. I. A. B. MacTavish, R.A.F.
 Lieut. R. M. Makepiece, R.A.F.
 Lieut. H. F. Mears, R.A.F.
 Capt. J. H. Medcalf, R.A.F.
 Capt. G. H. Millar, R.A.F.
 2nd Lieut. B. Miller, M.C., R.G.A. and R.A.F.
 2nd Lieut. G. Molyneaux, R.A.F.
 2nd Lieut. N. H. Moreton, R.A.F.
 2nd Lieut. P. C. Moyneham, R.A.F.
 Lieut. W. S. Murray, R.A.F.
 2nd Lieut. G. Nash, R.A.F.
 Lieut. K. A. Nelson, R.A.F.
 2nd Lieut. H. Norman, R.A.F.
 2nd Lieut. H. E. O'Hara, R.A.F.
 Lieut. A. F. Parker, W. Yorks Regt. and R.A.F.
 2nd Lieut. H. E. Partridge, R.A.F.
 2nd Lieut. W. S. Pawson, R.A.F.
 2nd Lieut. E. Peacock, R.A.F.
 Lieut. G. F. Peirce, R.A.F.
 2nd Lieut. H. D. Preston, R.A.F.
 2nd Lieut. J. M. M. Reid, R.A.F.
 2nd Lieut. D. J. Roach, R.A.F.
 2nd Lieut. G. C. Robinson, K.O.Y.L.I. and R.A.F.
 2nd Lieut. T. Rowell, M.C., R. Berks Regt. and R.A.F.
 2nd Lieut. E. O. Scarborough, King's L'Pool Regt. and R.A.F.
 Lieut. C. K. Scott, R.A.F.
 2nd Lieut. F. L. Shield, R.A.F.
 2nd Lieut. J. Slavik, R.A.F.
 Lieut. C. G. Smith, R.A.F.
 Lieut. F. B. Smith, R.A.F.
 2nd Lieut. R. H. B. Stevens, R.A.F.
 Capt. P. D. Stuart, R.A.F.
 2nd Lieut. E. C. Tart, R.A.F.

2nd Lieut. F. C. Taylor, R.A.F.
 Capt. G. E. Thomson, D.S.O., M.C., R.A.F.
 2nd Lieut. R. Townsend, R.A.F.
 2nd Lieut. F. A. Vandenberg, R.A.F.
 2nd Lieut. J. P. Van Ryneveld, R.A.F.
 2nd Lieut. R. P. Waller, R.A.F.
 2nd Lieut. H. C. Wiggins, R.A.F.
 2nd Lieut. G. F. Williams, R.A.F.
 Lieut. P. B. S. Wood, R.A.F.
 2nd Lieut. A. T. Wyman, R.A.F.

Previously Missing, now reported Killed.

Lieut. B. Balfour, Lond. Regt. (T.F.) and R.A.F.
 2nd Lieut. D. V. Gillespie, R.A.F.

Died of Wounds.

2nd Lieut. G. J. Hutcheson, R.A.F.
 Lieut. E. P. Morgan, R.A.F.
 Capt. J. G. S. C. Smith-Grant, R. Scots. and R.A.F.

Missing (believed Killed).

Capt. N. A. Magor, D.S.C., R.A.F.

Wounded.

Lieut. E. W. Anderson, R.A.F.
 Lieut. C. H. Arnison, R.A.F.
 Major P. Babington, M.C., Hants Regt. and R.A.F.
 2nd Lieut. A. Baird, R.A.F.
 2nd Lieut. W. H. Barlow, R.A.F.
 2nd Lieut. W. E. Barnes, Sher. For., attd. R.A.F.
 2nd Lieut. J. W. Benton, R.A.F.
 Lieut. H. Blackman, D.L.I. and R.A.F.
 Lieut. D. C. S. Bland, R.A.F.
 2nd Lieut. H. W. Chattaway, R.A.F.
 Lieut. H. A. Chippindale, R.A.F.
 2nd Lieut. A. C. Clinton, R.A.F.
 2nd Lieut. C. Darbyshire, R.A.F.
 2nd Lieut. O. Darlington, R.A.F.
 2nd Lieut. H. F. Davison, R.A.F.
 Lieut. P. W. Dickson-Phurley, R.A.F.
 Lieut. J. H. Eyres, R.A.F.
 2nd Lieut. A. E. Fitness, R.A.F.
 Lieut. H. F. Flowers, R.A.F.
 Lieut. S. E. Gane, R.A.F.
 Lieut. C. J. R. Gibson, Cameron Highrs. (T.F.), attd. R.A.F.
 2nd Lieut. J. H. Guest, R.A.F.
 2nd Lieut. W. H. Hadfield, R.A.F.
 2nd Lieut. J. F. A. Hall, E. Yorks Regt., attd. R.A.F.
 Lieut. P. D. P. Hamilton, R.A.F.
 2nd Lieut. A. Harman, R.A.F.
 Lieut. L. G. Harvey, R.A.F.
 2nd Lieut. T. M. Haslett, R.F.A., attd. R.A.F.
 2nd Lieut. J. H. Hay, R.A.F.
 2nd Lieut. R. V. Hepburn, R.A.F.
 2nd Lieut. L. M. Hill, R.A.F.
 Capt. W. G. Hinchcliffe, R.A.F.
 2nd Lieut. J. E. Holden, R.A.F.
 2nd Lieut. L. C. Hooton, R.A.F.
 Lieut. R. H. Horwood, R.A.F.
 2nd Lieut. A. B. Hughes, R.A.F.
 Lieut. W. A. Hunter, R.A.F.
 Sub-Lieut. S. P. Inman, R.A.F.
 2nd Lieut. B. Instone, R.A.F.
 2nd Lieut. W. Jacklin, R.A.F.
 2nd Lieut. R. F. Jarrom, R.A.F.
 Lieut. S. N. Jones, R.A.F.
 2nd Lieut. E. A. W. Kent, R.A.F.
 2nd Lieut. C. Knight, Berks Regt., attd. R.A.F.
 2nd Lieut. G. W. Lambert, R.A.F.
 2nd Lieut. R. A. Lane, R.G.A., attd. R.A.F.
 Lieut. E. R. Lawson, R.A.F.
 Lieut. F. M. Lence, R.A.F.
 2nd Lieut. J. J. Mackenzie, R.A.F.
 Lieut. R. B. Malling, R.F.A. and R.A.F.
 2nd Lieut. A. G. Masters, R.A.F.
 Capt. H. B. Maund, R.A.F.
 Lieut. H. T. Melville, Seaforth Highrs., attd. R.A.F.
 Lieut. J. M. R. Miller, K.O.S.B. and R.A.F.
 2nd Lieut. J. Milton, R.A.F.
 Capt. W. A. C. Morgan, M.C., Welsh Regt. and R.A.F.
 2nd Lieut. J. L. Morrison, R.A.F.
 2nd Lieut. J. R. Noble, R.A.F.
 2nd Lieut. A. D. Pate, R.A.F.
 2nd Lieut. F. N. Phillips, R. Dublin Fus., attd. R.A.F.
 Lieut. P. Pickering, R.F.A. (T.F.), attd. R.A.F.
 2nd Lieut. F. W. Plaxton, R.A.F.
 2nd Lieut. G. R. Priestley, R.A.F.
 Lieut. E. J. Ralli, R.A.F.

Capt. C. N. Russell, R.A.F.
 2nd Lieut. D. P. Scott, R.A.F.
 Lieut. M. C. Sexton, King's L'pool Regt. attd. R.A.F.
 2nd Lieut. G. F. Sharp, R.A.F.
 2nd Lieut. F. V. Sheard, R.A.F.
 Lieut. L. F. Short, K.O.Y.L.I., attd. R.A.F.
 Lieut. L. H. Short, M.C., Durh. L.I. (T.F.) and R.A.F.
 2nd Lieut. C. O. Smith, R.A.F.
 2nd Lieut. M. de V. Summers, R.A.F.
 2nd Lieut. W. L. Thomas, R.A.F.
 2nd Lieut. A. F. Tong, R.A.F.
 Lieut. S. Townsend, R.A.F.
 2nd Lieut. J. Tulloch, R.A.F.
 2nd Lieut. S. S. Turnbull, R.A.F.
 2nd Lieut. H. Warburton, R.A.F.
 2nd Lieut. W. T. Warren, R.A.F.
 P/F.O. C. A. Wedekind, R.A.F.
 2nd Lieut. H. A. Whittaker, R.A.F.
 2nd Lieut. W. Wild, R.A.F.
 2nd Lieut. R. G. Young, R.A.F.

Missing.

2nd Lieut. A. W. Aird, R.A.F.
 2nd Lieut. D. S. Anderson, R.A.F.
 2nd Lieut. J. L. K. Anderson, R.A.F.
 Capt. J. V. Aspinall, R.A.F.
 2nd Lieut. F. Atkinson, R.A.F.
 2nd Lieut. C. C. A. Bearmont, R.A.F.
 Capt. D. J. Bell, M.C., R.A.F.
 Lieut. R. G. Bennett, R.A.F.
 2nd Lieut. F. H. Blaxhill, R.A.F.
 2nd Lieut. C. L. Bray, R.A.F.
 2nd Lieut. J. L. Brewster, R.A.F.
 2nd Lieut. P. T. Bruce, King's L'pool. R. (T.F.), attd. R.A.F.
 2nd Lieut. F. J. Brotheridge, R.A.F.
 2nd Lieut. V. R. Brown, R.A.F.
 Capt. W. J. Cairnes, Leins. Regt. and R.A.F.
 2nd Lieut. H. A. Clarke, R.A.F.
 Capt. H. Claye, Sher. For., attd. R.A.F.
 2nd Lieut. F. F. Collins, R.A.F.
 2nd Lieut. W. B. Craib, R.A.F.
 2nd Lieut. W. I. Crawford, K.R.R.C. and R.A.F.
 2nd Lieut. S. Davidson, R.A.F.
 2nd Lieut. J. J. Dawe, R.A.F.
 Lieut. P. M. Dennett, R.A.F.
 2nd Lieut. A. Devitt, R.A.F.
 2nd Lieut. T. G. Drew-Brook, R.A.F.
 2nd Lieut. B. F. Dunford, R.A.F.
 2nd Lieut. C. H. Dunster, R.A.F.
 2nd Lieut. L. de G. Godet, R.A.F.
 2nd Lieut. A. Haley, Essex Regt., attd. R.A.F.

2nd Lieut. N. B. Harris, R.A.F.
 Capt. K. S. Henderson, R.A.F.
 2nd Lieut. H. S. Hennessey, R.A.F.
 2nd Lieut. A. H. Herring, R.A.F.
 2nd Lieut. A. C. Howell-Jones, R.A.F.
 2nd Lieut. F. J. D. Hudson, R.A.F.
 2nd Lieut. H. C. Hunter, R.A.F.
 2nd Lieut. R. S. Lasker, R.A.F.
 Lieut. H. L. Le Roy, R.A.F.
 2nd Lieut. C. P. Macklin, R.A.F.
 2nd Lieut. R. S. Milani, R.A.F.
 2nd Lieut. K. O. Millar, R.A.F.
 2nd Lieut. H. Mitchell R., A.F.
 Capt. A. E. Palfreyman, R.A.F.
 2nd Lieut. J. Patenaude, R.A.F.
 2nd Lieut. R. W. Peat, R.A.F.
 2nd Lieut. G. A. Rainier, R.A.F.
 2nd Lieut. F. G. Reddie, R.A.F.
 2nd Lieut. S. B. Reece, R.A.F.
 Lieut. J. Reid, R.A.F.
 Lieut. H. A. H. Roe, R.A.F.
 Lieut. G. C. T. Salter, M.C., E. Yorks Regt., attd. R.A.F.
 Capt. V. E. Sieveking, D.S.O., R.A.F.
 Lieut. C. G. Scobie, R.A.F.
 2nd Lieut. W. P. Southall, R.A.F.
 2nd Lieut. A. L. Stockenstrom, R.A.F.
 2nd Lieut. H. Tannenbaum, R.A.F.
 2nd Lieut. H. E. Tansley, K.R.R.C. and R.A.F.
 Lieut. N. A. Taylerson, R.A.F.
 2nd Lieut. W. E. Taylor, R.A.F.
 2nd Lieut. H. E. Townsend, R.A.F.
 2nd Lieut. G. Watson, R.A.F.
 2nd Lieut. A. N. Webster, R.A.F.
 Capt. L. E. Whitehead, R.A.F.
 2nd Lieut. F. Whitehouse, R.A.F.

The following are reported by the War Office:—

Previously Missing, now reported Killed.

Lieut. J. C. Courtney, Aus. F.C.

Accidentally Killed.

Lieut. F. H. Choate, Alta., attd. R.A.F.

Wounded.

Lieut. A. S. H. Ryding, Cent. Ont., attd. R.A.F.

Missing.

Lieut. J. R. Ziemann, E. Ont., attd. R.A.F.

Previously Missing, now reported Prisoner in German hands.

Lieut. A. Hollis, Hamps., attd. R.F.C.



Long Flights by Italians.

LEAVING his base on June 10th, an Italian aviator crossed the Adriatic and flew over Zara, Sebenico, Spalato, and Metkovic, taking many photographs. He then recrossed the Adriatic and landed at Mount Gargano, after a non-stop flight of 5 hours 45 minutes, covering 590 miles.

The *Times* Italian correspondent, two days later, reported that two Italian pilots had flown 500 miles to Friedrichshafen and back, returning with excellent photographs of this stronghold.

French Aviators Killed at Hounslow.

AFTER flying from France on the evening of June 12th, Capt. Pierron and Lieut. Rousseau, of the French Air Service, were killed by the fall of their machine at Hounslow, when they were within a quarter of a mile of their destination. The machine was seen to be approaching Hounslow at about 8.30, flying steadily, and giving no indication of trouble. It had volplaned to within about 250 ft. from the ground with a view to landing, when it suddenly dipped, turned on its side, and dropped like a stone to earth. When the on-lookers reached the spot both men were dead. The cause of the accident is unknown.

French Pilot Escapes from Germany.

FLIGHT-LIEUTENANT CONSTANTINI, who was brought down wounded and was captured on November 9th, 1917, has succeeded in escaping, accompanied by Capt. Derache, of the Chasseurs Alpins, who has been a prisoner in the hands of the Germans since September, 1914.

New American Aces.

LIEUT. E. RICKENBACKER, of Columbus, O., has been

confirmed by the French the second all-American-trained "ace," Douglas Campbell, of California, being the first. He landed his first German aeroplane on April 29th and his last on May 30th, though unofficially he has several others to his credit. He was one of the foremost American racing car drivers, and first went to France as a motor car driver.

How a Two-Seater was Captured.

FURTHER details of the surrender of the Hun machine mentioned in Sir D. Haig's report of June 10th are supplied by Mr. F. M. Cutlack, writing from the War Correspondents' Headquarters on June 10th.

Yesterday afternoon a German two-seater aeroplane, which had taken part in low-flying patrols during the attack on the French and had lost its way, was discovered above the Australian area by an Australian reconnaissance machine coming home from the German lines. The German machine tried to escape, but the Australian headed him off and shepherded him towards his own aerodrome like a stray sheep. The German did not, apparently, relish a duel, and did not fire a shot.

The Australian aeroplane steadily drove the German down, keeping about 300 ft. behind his tail with a gun ready to fire in case of emergency. The Australian observer frequently shouted to the pilot, "Fire a burst to make sure," but the pilot replied, "So long as he behaves properly and goes home to our grounds I will not fire." The German, who subsequently admitted that he did not know where he was, landed in the Australian aerodrome in a considerable state of panic, believing that our machine would open fire each moment. His machine was captured intact for the Australian War Museum.

AIRISMS FROM THE FOUR WINDS.

SIR WILLIAM WEIR, Secretary of State for the Air Force, has had conferred upon him by the King a Peerage of the United Kingdom. Sir William cannot but help add strength to the Upper House, and the alternative of joining the ranks of the £400 a year battalion must have considerably influenced the Air Minister in bowing to the will of His Majesty.

For the first time, the "Independent Force, R.A.F.," is publicly earmarked officially in the *communiqué* of the Air Ministry issued on June 17th, on this Force's bombing activity upon enemy objectives.

Who said: Sir Hugh Trenchard?

It is in keeping with the uniqueness of the Air Service that its special decorations should also partake of the same characteristic. Therefore in the selection of the ribbons for the new decorations which have been made exclusive to the



The Ribbons of the Distinguished Flying Cross (left), and the Distinguished Flying Medal (right). The colours are purple and white. The Ribbons of the Air Force Cross and the Air Force Medal are similar, except that the colours are red and white.

Royal Air Force that uniqueness is again outstanding in the fact that the colours are for the first time arranged horizontally, thus distinguishing with emphasis the Air Force medals and crosses from all other decorations.

HONOURS are easy, but not equal. "X" in a letter to the press puts a case, probably typical of hundreds, which has in it much for profound thought. "I am glad," writes X, "to see four civilian friends have been made Knights of the British Empire. One of them, under 50, has been working for the Government for nearly one year—the others less. I am glad, too, to see other friends get the C.B.E., including one under 40 who has not had the satisfaction of crossing the Channel since war broke out, though he wears uniform. But I am thinking more of another friend, who, at the commencement of the war, although he was over 50, volunteered, went out with his battalion, fought in the trenches, was knocked out but went out again, has been twice recommended for an award, and is still serving. He wears on his breast just the ribbons for a previous war—no more. I know, too, that his is no exceptional case; and I just wonder how these things are arranged." And there are many others who are also left wondering.

WITH the thought that the Allies have the whip-hand of the Huns in the air, the following report from the *Petit Journal*, of Thursday last week, giving details of an aerial action by which a German attack was checked on June 2, is still further heartening: On being warned that considerable enemy preparations were being made, the commander of the sector, so as to avoid loss of life, instantly mobilised a group of day-bombing machines to the number of over 110, each of which carried 32 bombs.

Rising in successive squadrons to a height of 1,000 to 1,200 yards, the airmen threw tons of projectiles on the Germans, who were in close formation, with terrible results.

Enemy corpses were simply piled up, while those who escaped from the massacre took to flight mad with terror. The consequence was that the attack could not be launched for lack of assailants.

At first glance, when you leave out the German end of the contraption, an "aeridhacht" looks as if it could reasonably be first cousin to aeroplanes and their occupations. It would therefore appear as if aerial stunts might well be appropriate

to the occasion of the holding of an aeridhacht. But judging by the hubbub that has arisen in the House in connection with the flying around at Cullen, county Cork, of some of our aircraft, during an aeridhacht bœno—serve it right in any case for its Hunnish ending—there would seem to be reason to think that somehow there is no relationship between concerns aviatic and this aeri joy (stick) gathering. The more so from Mr. Samuels' closing down reply. Sheer emerald eyed jealousy lurked at the bottom of the Kingley interpolations.

NO. 12 SQUADRON (1916) R.A.F. It is sought to get into touch with officers who served in this squadron in 1916, and a request to that end appears in our advertisement columns. Just in case the announcement may not catch the eye of any of the officers, we go out of our usual course and draw this particular attention to the advertisement. As will be seen either Lieut.-Col. J. C. Halahan or Captain Cresswell Turner should be communicated with c/o "FLIGHT."

SAN ANTONIO (Texas) June 10th.—Forty-five conscientious objectors who refused to wear military uniform were recently sentenced by court-martial to imprisonment for life. General O'Neill, who reviewed the records of the trial, has now reduced the sentence to 25 years' imprisonment in each case.

Conchies this side, note, against the time when similar democratic ideas take root this side the herring pond.

ACCORDING to "The Clubman" in the *Pall Mall Gazette*, amongst the various news-sheets which have recently seen the light of day in Paris are the "Plane News," an official American aviation paper, and another publication, also upon aerial subjects, y'clept "Flights and Landings."

IN order to stabilise the production of aircraft in the United States Mr. John Ryan, director of the U.S. Aircraft Production Board, has secured the introduction into Congress of a bill to permit the creation of a £20,000,000 aircraft corporation, which will control the Aircraft Production Board, just as the Emergency Fleet Corporation controls the U.S. Shipping Board. The Government will hold a majority of the stock of the new corporation, which, it is stated, should undoubtedly do much to hasten production and synchronise the activities of aircraft builders in the States and abroad, and ensure regularity in the supply of material or parts at reasonable prices.

IN several directions considerable interest has been created and attention has been drawn to the reproduction of the first official aeroplane post envelope and stamp which was reproduced in "FLIGHT" a week or so ago. Enlarging upon this postal service, Mr. Fred J. Melville, the well-known postage stamp expert in the *Daily Telegraph*, after pointing out that the rate for carrying these letters via the air is fixed by the U.S. authorities at 24 cents, states that the United States Post Office kept the new stamp of that denomination as a surprise up to the last moment. The design shows a vignette of a biplane, numbered in microscopic figures 38268; the biplane, which is manned and in flight, is printed in blue within a frame design in red, inscribed "U.S. Postage. 24 cents." Some of the letters received by this mail bore the special 24 cents biplane stamp, but it was equally admissible to use any other U.S. postage stamps to the amount of 24 cents. The postmark is a large circle, reading "Air Mail Service Wash. N.Y. Phila. May 15, 1918. First Trip."

CONTINUING, Mr. Melville says the biplane stamp was printed in sheets of 100, and the first supplies were carried by the first air post leaving Washington to be auctioned en route for the benefit of the Red Cross. Whether by accident or "accidentally for the purpose," one sheet of the stamps was printed with the biplane vignette upside down, and this was bought by Mr. Edward H. R. Green, a New York financier, who thus secured a corner on these "errors" for £4,000. A large number of philatelists were specially invited to be present at the aerodromes for the inauguration of what is officially styled the "Airplane Mail Service."

PERSONALS

Casualties.

Captain JOHN VINCENT ASPINALL, R.A.F., who was killed in action on May 15th, was the son of H. Aspinall, of London.

Second Lieutenant SAMUEL H. D'ARCY, D.S.O., R.A.F., who was killed whilst flying on June 8th, aged 19, was the son of Viscount and Viscountess D'Arcy, of Ladbroke House, Redhill.

Lieutenant CHARLES KENYON FLOWER ("DAISY"), killed in action on May 15th last, was the elder son of Mr. and Mrs. Harry Flower, of 3 Orrisdale Terrace, College Road, Cheltenham. He joined the R.F.C. in November, 1915, as a despatch rider. After having been promoted to 1st Air-Mechanic, he was given a commission in November, 1917, and became a very keen pilot of unusual ability.

Lieut.-Col. EDWARD KEITH BYRNE FURZE, D.S.O., M.C., commanding a battalion The Queen's Regt., who was killed in action on May 27th, aged 27th, was the second son of Herbert and Mary Furze.

Captain CHARLES ROGER LUPTON, R.A.F., who was killed in action on May 9th, aged 19, was the only son of Mr. and Mrs. Charles Lupton, of Carn Head, Roundhay, Leeds. He was educated at Hillbrow and at Mr. G. F. Bradby's House at Rugby. He left school in July, 1916, before he was 18, to join the R.N.A.S., and after obtaining his full certificate he served at home stations, and at one place he met with a serious accident in April, 1917, which incapacitated him for two months, after which he returned to duty. He was sent to Flanders in August, 1917, to take up work with a bombing squadron, and while there received the D.S.C. Captain Lupton was made an acting Flight Commander in January, 1918, and when he was transferred to the R.A.F. he was promoted captain. In March, 1918, his squadron was moved, and shortly afterwards he received a Bar to the D.S.C. He continued at this work until May 9th, 1918, when he was killed in action.

Second Lieutenant ANTHONY NUGENT, R.A.F., who was killed while flying on active service on June 1st in his 19th year, was the only son of the late John Nugent, late I.C.S., by his second marriage with Amy Isabelle, daughter of Herbert Hankey, of 8, Second-Avenue, Hove. He was educated at Middleton House, at Bognor (afterwards at Cordwalles), under Mr. M. F. Voules, and at Winchester, which he left in July, 1917.

Lieutenant St. JOHN SALMON-BACKHOUSE, R.A.F., who was killed in aerial combat on April 3rd, aged 28, was the second son of the late R. Salmon-Backhouse, of Leeds, and Mrs. Salmon-Backhouse. He was educated at Lynams and King's College School, Wimbledon, and then entered an engineering workshop, where he trained for four years. He went out to Argentina in 1909, and was employed on the Central Argentine Railway at Rosario. After three years he obtained an appointment as draughtsman in Liebig Meat Extract Company Fabrica, Colon, Entre Rios, where he remained until the war broke out. He returned to England, and enlisted in the 1st Sportsman's Battalion, obtained his commission, and transferred to the East Lancashire Regiment, and was sent to the front in July, 1916. In the following year he joined the R.F.C. went to Cairo, and obtained his "wings," and returned to Salonica as pilot. His three brothers are Capt. R. Salmon-Backhouse, R.E., Lieut. Basil Salmon-Backhouse, A.S.C., and Lieut. Hugh Salmon-Backhouse, Yeomanry.

Second Lieutenant JOHN BASIL PALLING SIMMS, Fifth Fusiliers, attached R.A.F., who was killed in action on June 4th, aged 19, was the only son of the late Henry Simms and of Mrs. Simms, Jesmond Road, Newcastle-on-Tyne.

Captain WALTER A. TYRRELL, M.C., R.A.F., who was killed in action on June 9th, aged 19, was one of three soldier sons of Alderman John Tyrrell, of Belfast, and was recently awarded the Military Cross for bringing down three enemy aeroplanes within 15 minutes. He had in all 15 German machines to his credit.

Major Y. ARTHUR, R.A.F., who was killed in a raid abroad, on June 7th, aged 28, was the only son of the late Thomas Glen Arthur and Mrs. Arthur, of Carrick House, Ayr and Dyenan-el-Mufti, Algiers, and husband of Eleanor Arthur.

Second Lieutenant HOWARD RICHMOND HENRY BUTLER, Australian Flying Corps, who was killed in an accident while flying in Ayrshire, on June 2nd, aged 21, was the only son of Mr. W. R. Butler, architect, of Melbourne, Victoria. He was educated at the Melbourne Grammar School, and, after serving some months in Australia with the Royal Australian Engineers at Swan Island, he enlisted in the Australian Artillery. He was in camp some time at Maribynong, Victoria, and left Melbourne in May, 1917, with artillery reinforcements. He served in the Australian Artillery until October 4th, 1917, and then joined the Australian Flying Corps, being gazetted second lieutenant on April 8th last. He was completing his training before going out to the front.

Mr. BERTRAM G. COOPER, who was killed in an aeroplane accident on June 7th, aged 36, had done valuable work for aviation in several directions. He was in the Civil Service when his attention was attracted towards aerodynamic problems, especially in connection with wing-flapping mechanisms. He became a member of the Aeronautical Society in 1909, and served on some committees and the Council. He succeeded Major T. O'B. Hubbard in the secretaryship in 1913, and continued this work for some time after the outbreak of war. Then he joined Mr. Griffith Brewer in the Aeronautical Instrument Co., and subsequently became attached to the Technical Dept. of the Air Ministry.

Second Lieutenant ALBERT VICTOR PATRICK DAVEY, R.F.A., attached R.A.F., who was accidentally killed whilst flying abroad on June 2nd, was 22 years of age and son of Mr. and Mrs. Davey, of Bexley Heath. Educated at Colfe's Grammar School, Lewisham, he obtained an appointment with the R.M.S. Packet Company. In May, 1915, he enlisted as trooper in the County of London Yeomanry. After service on an Eastern front he returned to England and secured a commission in the R.F.A. in June, 1917. Transferring to the R.A.F. in September he received his wings and went out to the front last March.

DESMOND MAURICE MACARTNEY-FILGATE, who died on May 30th from injuries received in a flying accident, was the third son of the late Charles Macartney-Filgate, and grandson of the late Townley Macartney-Filgate. Lowtherstone, Balbriggan. His age was 18 years.

Lieutenant HAROLD W. MEDLICOTT, R.F.C., aged 23, who was shot down and killed while attempting to escape from the prison camp at Bad Colberg (Sachsen Meiningen) on or about May 19th, was the only surviving son of Mr. and Mrs. J. W. Medlicott, Ealing, W., and a brother of Second Lieutenant S. N. Medlicott, R.F.A., who was killed at Loos on October 6th, 1915. He obtained his commission in the R.F.A. in September, 1914, and shortly after was transferred to the R.F.C. During several months of good work, he proved himself to be a daring and skilful pilot, and was successful in bringing down a number of enemy machines, for which he was mentioned in despatches. On November 9th, 1915, while on special work, a blinding snowstorm and consequent engine trouble compelled an enforced landing within the German lines, and he has since been interned in various prison camps, from which he made many unsuccessful attempts to escape.

Second Lieutenant CHARLES REGINALD SOUTHWELL, who was killed in a flying accident in Wiltshire on May 6th, was 23 years of age and the second son of Mr. and Mrs. Southwell, of Sydenham Terrace, Sunderland. He enlisted in the Royal Garrison Artillery in September, 1914, and did service in France. He joined the R.F.C. as a Cadet in November, 1917, was gazetted March 9th, 1918. His elder brother is serving in the Submarine service, and his younger brother, after over two years in France, was taken prisoner on March 21st.



Lieutenant JOHN PERCIVAL VAN RYNEVELD, R.A.F., who was killed in a flying accident near Dartford on June 2nd, aged 23, was the younger son of Mr. and Mrs. D. J. Van Ryneveld, of Theonissen, O.F.S., South Africa. He was educated at Winburg and Grey College, Bloemfontein. He was wounded in 1914 while serving under Commandant Pretorius in the operations against the Rebellion. He left South Africa in April, 1917, to join the R.F.C.

Lieutenant MILES BRUCE DALZELL WHITESIDE, Highland Light Infantry, attached R.A.F., who died on June 13th of injuries received while flying in Herts on June 10th, aged 23, was the son of the Rev. M. Whiteside, late rector of St. Nicholas', Cardiff. He joined the Artists' Rifles in 1914, subsequently obtaining a commission in the A.S.C., went out to France in 1914, and transferred to the Highland Light Infantry in May, 1915. He was wounded the following August, and rejoined his regiment in Mesopotamia in May, 1916, and was again wounded in January, 1917. He was temporary A.D.C. to the Lieutenant-Governor of Burma, and returned home in October, 1917, to join the R.A.F. He obtained his wings the day of his accident.

Married.

Lieutenant K. C. BASS, South African Infantry and R.A.F., eldest son of Major and Mrs. Bass, Johannesburg, was married on June 15th at the Chapel Royal of the Savoy, to LOIS, only daughter of Mrs. HALL, London.

Major JOHN BLACKWOOD, R.A.F., only son of G. Marshall Blackwood, Craigton, Milngavie, Dumbartonshire, was married on June 13th, at New Kilpatrick Parish Church, to MARION SYMINGTON, second daughter of LORD PROVOST and Mrs. J. W. STEWART, Glasgow.

Lieutenant GEORGE BORWICK, of the Bedfordshire Regiment, attached R.A.F., was married on June 8th at the Chapel Royal of the Savoy, to DOROTHEA GERTRUDE, second daughter of the late Mr. CHARLES GREY and Mrs. Grey, of Anerley.

The marriage of Captain F. D. H. BREMNER, R.A.F., elder son of Captain Donald Bremner, Assistant Commissioner of City of London Police, and Mrs. Bremner, and Miss VIVYEN HURD, daughter of Mr. and Mrs. Archibald Hurd, took place at All Saints', Margaret Street, W., on June 13th.

Lieutenant J. H. DAND, R.A.F., was married on June 11th, at Holy Trinity Church, Barnes, S.W., to DORIS MARY AUGUSTA, elder daughter of JOHN CRAWFORD and Mrs. PLATT, of Barnes, S.W., and Tankerton, Kent.

Lieutenant THOMAS MAKIN DRAPER, R.A.F., only son of Dr. T. Makin Draper and Mrs. Draper, Rickmansworth, was married on June 11th, at St. Thomas's Church, Rickmansworth, to LILIAN MARY, younger daughter of Mr. and Mrs. HENRY WEBSTER, of Lynsters, Rickmansworth.

Major WALTER WYNNEFIELD HIGGIN, R.A.F., only son of W. Sinclair Higgin, "Woodlands," Formby, Lancs., was married on June 11th at St. Nicholas' Church, Burton, Cheshire, to OLIVE, only daughter of ARTHUR B. EARLE, The Old Hall, Puddington, Cheshire.

The marriage arranged between Lieutenant JOHN TREVOR KYFFIN, R.A.F., and Miss MARAGRET JOYCE DE WINTON WILLS took place at the Church of the Holy Cross, Ramsbury, Wilts, on June 19th.

Seaplane Duels in North Sea.

THE announcements made by the Admiralty during the past week have indicated increased aerial activity on the part of the German Naval Air Service in the North Sea, which has led to a number of combats between British and enemy seaplanes.

On the afternoon of June 4th five British seaplanes set out from one of our East Coast bases for patrol purposes, and for three hours failed to encounter any hostile craft. When, however, the patrol was some distance off Terschelling, one of the seaplanes was forced to descend to the water owing to a broken petrol pipe. While our machines were circling the damaged craft five hostile seaplanes were sighted and pursued, but they avoided engagement with our forces although in superior strength. Our seaplanes then returned to the damaged machine, which was being repaired. A few minutes later two more hostile seaplanes were sighted, and these were chased off. Apparently the enemy had decided upon a concentration of their forces, for half an hour later ten hostile seaplanes were seen coming in the direction of our craft, which immediately went forward to give action. A sharp fight occurred between our four machines and the ten enemy craft, in which two enemy seaplanes were riddled with shot and crashed into the sea, one bursting into flames just before

Lieutenant NORMAN HARRY NEYNOL MACLEOD, Royal Scots Fusiliers, attached R.A.F., late E.I. and C.T. Co., Ltd., elder son of the late Norman Neville MacLeod, Tirhoot, India, and of Mrs. MacLeod, was married on June 10th at Kilmacow Church, Ireland, to BLANCHE, second daughter of the late EDWARD WHITBY BRISCOE and of Mrs. Briscoe, of Harristown House, Piltown, Co. Kilkenny, Ireland.

Captain VYSE MILLARD, Essex Regiment and R.A.F., second son of the late Edward Millard and Mrs. E. M. Millard, of Reigate, was married on June 12th, at the Parish Church, Danby, to DODDEN, youngest daughter of Mr. and Mrs. H. W. JARVIS, of Westdyke, Westfield, Redcar, and at Bramble Carr, Danby.

To be Married.

The engagement is announced of LIEUT. WILLIAM SCOTT HILL-REID, Devons, attached R.A.F., elder son of Mr. and Mrs. William Hill-Reid, of Bexhill-on-Sea, and grandson of the late Rev. William Reid, D.D., of Edinburgh, to EDITH ANGELA, second daughter of Mr. and Mrs. ERIC M. CARTER, of Edgbaston, Birmingham, and granddaughter of the late Furneaux Jordan, F.R.C.S., of Birmingham.

The engagement is announced between Captain JOHN EDWARD ALFRED HOARE, D.S.C., R.A.F., only son of Mr. and Mrs. Alfred Hoare, of Charlwood, East Grinstead, and MARJORIE GWENDOLINE, fourth daughter of Mr. and Mrs. S. P. TROUNCE, of Culroy, Truro, Cornwall.

A marriage has been arranged between JAMES E. MARIGOLD, R.A.F., son of J. A. Marigold, of 7, Augustus Road, Edgbaston, and CONSTANCE JOYCE, only daughter of Richard D. MATTHEY, of The Croft, Hartley, Wintney, Hants.

The marriage between Mr. J. G. VECQUERAY, lieutenant, R.A.F., of Chaucer Road, Bedford, and PHOEBE, elder daughter of the late Commander AUTON, R.N., and Mrs. Auton, of Walpole Road, Brighton, will take place quietly at St. Matthew's, Brighton, on June 22nd, at 2 p.m.

The marriage of Major JOHN BALLINGALL FORBES WATSON, R.A.F., younger son of the late John Watson and Mrs. Watson, Burnbank, Milnathort, Scotland, and ALEXANDRA MARY GEORGIE, only daughter of the Rev. Canon J. N. DALTON, K.C.V.O., C.M.G., and Mrs. Dalton, The Cloisters, Windsor Castle, will take place at St. Martin-in-the-Fields, Trafalgar Square, on June 29th, at 11.30.

The marriage of Captain VICTOR WATSON, R.A.F., and ETHEL MARY, elder daughter of Mr. and Mrs. LIONEL A. CRICHTON, of 17, Portman Street, W., will take place at the Parish Church, Henley-on-Thames, on Thursday, June 27th, at 1.30 p.m.

Items.

A memorial service for Captain WILLIAM ROBERT SARGENT WILBERFORCE, M.C., King's Royal Rifle Corps, attached R.A.F., son of the late Bishop of Chichester, who was killed on June 2nd, was held at St. Peter's Church, Eaton Square, on June 12th, the Bishop of Southwark and the Bishop of Willesden officiating.

The will of Lieutenant THOMAS MCKENNY HUGHES, R.F.C., of Ravensworth, Brooklands Avenue, Cambridge, and Marylebone Road, N.W., who was killed in action on February 5th, son of the late Professor Hughes, F.R.S., of Cambridge University, has been proved at £28,491.

it reached the water. A British seaplane was damaged, and eventually landed in Vlieland. During the fight two hostile seaplanes were detached from the main body and an exciting air duel followed, in the course of which one of our assistant pilots was shot through the head and died instantaneously. The chief pilot, however, continued to navigate the machine, and was attacked from the rear and below by four enemy machines on the one side and three on the other. The pilot nose-dived immediately and put up a running fight from the stern with all seven machines, and eventually succeeded in forcing them to break off the pursuit. While the seaplane was climbing again to pick up the other British machines its petrol pipe broke, necessitating a landing when 10 miles off the Dutch coast. After repairs by the engineer air mechanic the seaplane was able to resume its flight within 10 minutes, and joined two of the other British seaplanes. A further search for the enemy proved fruitless, and our craft then returned to their base.

It was subsequently learned that the British machine which had had a breakdown two hours before the battle was destroyed by its own crew after it had reached Dutch waters, and that the crew swam ashore. As has already been stated, the crew of both British seaplanes are now interned in Holland.

The British Air Service

"PER ARDUA AD ASTRA"

The Royal Air Force.

London Gazette, June 11th.

The following temp. appointments are made at the Air Ministry:—
Staff Officer, 2nd Class.—W. E. Jones (Maj., L'pool R.) and is granted a temp. commn. as Maj.; vice Maj. E. G. Mackenzie; May 21st.

Staff Officer, 3rd Class.—Lieut. (Temp. Capt.) H. H. Walmsley, and to retain his temp. rank whilst so employed, vice Lieut. (Temp. Maj.) P. C. Simmons; May 25th.

The following temp. appointments are made:—
Staff Officer, 1st Class.—Lieut. (Temp. Capt.) W. O. Raikes, and to be Temp. Lieut.-Col. whilst so employed; April 1st.

Staff Officer, 2nd Class.—Capt. C. C. Darley, and to be Temp. Maj. whilst so employed; May 21st.

Staff Officer, 3rd Class.—J. F. Myles (Temp. Capt., Sea. Highrs.), and is granted a temp. commn. as Capt.; May 5th.

Flying Branch.

The following Capt. to be Temp. Maj. while employed as Maj. (A. and S.):
 C. J. W. Crichton, Lord G. H. L. Dundas, J. B. Elliott, A. W. Keen, M.C., H. H. Kitchenier, G. H. B. McCall, H. J. Seagrave; April 1st. A. S. C. Maclaren, M.C.; April 9th. H. Henty; April 19th. C. B. Cooke; April 20th. A. C. Hagon; April 26th. E. N. Clifton, E. L. Foot, M.C., A. C. Horsburgh; April 30th. E. B. Beauman, M. S. Marsden, R. D. G. Sibley; May 1st. T. F. N. Gerrard, D.S.C.; May 30th. L. L. Maclean; June 5th. E. de C. Halifax; June 10th.

Lieuts. (Temp. Capt.) to be Temp. Maj. while employed as Maj. (A. and S.):
 —A. Durston, G. J. King, R. S. Lucy, P. R. Meredith, H. T. Shaw, J. K. Waugh; April 1st. R. W. Gow, D.S.O., D.S.C.; April 7th. C. J. Q. Brand, M.C.; April 19th. S. E. Adams; April 21st. C. E. M. Pickthorne, M.C., H. G. Smart; April 30th. C. T. Freeman, D.S.C., A. F. F. Jacob; May 1st. C. C. R. Edwards, D.S.C.; May 13th. R. C. Hardstaff; May 27th. G. Knight, M.C.; June 5th.

Capt. (Hon. Maj.) G. G. H. Cooke to be Temp. Maj. whilst employed as Maj. (Dir.); June 3rd.

Lieuts. (Temp. Capt.) to be Temp. Maj. while employed as Maj. (Dir.):
 —R. A. Cochrane, J. B. Cole-Hamilton; April 1st. J. C. Little (substituted for notification in the Gazette of May 28th); G. M. Thomas, R. S. Booth; May 14th.

Lieut. (Temp. Capt.) B. C. Windeler to be Temp. Maj. while employed as Maj. (K.B.); May 22nd. (Substituted for notification in Gazette June 4th.)

Lieuts. to be Temp. Capt. while employed as Capt. (A. and S.):—R. J. Elliott; April 1st. N. S. Beswick; May 23rd. J. Weaver; June 1st. F. W. Burdick, W. S. C. Smith, C. Sutherland; June 4th.

Lieuts. (Hon. Capt.) to be Temp. Capt. while employed as Capt. (A. and S.):—P. A. F. Belton, E. D. Crundall, D. F. Fitzgibbon, D.S.C., H. F. Stackard; May 10th. G. H. B. Wilson, M.C.; May 22nd. A. H. H. Gilligan; May 26th. W. H. S. Aplin, B. C. H. Cross, S. J. Fetherston, J. L. Gordon, G. R. Hodgson; June 1st.

Lieuts. (Hon. Capt.) to be Temp. Capt. while employed as Capt. (Dir.):
 —F. L. C. Butcher, E. K. H. Turnour; June 3rd.

The following are granted temp. commns. as 2nd Lieuts. (A. and S.):
 —H. S. D. Woolley, J. Priestman; April 1st. L. H. Holmes; April 3rd. C. Jackson (Lieut., R. Welsh Fus., T.F.), and to be Hon. Lieut.; April 5th. E. C. Baines (Lieut., Ches. R., T.F.), and to be Hon. Lieut.; April 8th. R. F. Lee (T. Capt., E. Lan. R.), and to be Hon. Capt.; April 9th. J. Christie (T. Lieut., Sea. Highrs.), and to be Hon. Lieut.; April 10th. W. Lee (T. Lieut., R. Ir. Fus.), and to be Hon. Lieut. April 12th. J. Wallace (T. Lieut., att'd. R. Highrs.); April 13th. F. L. Bamber (T. Lieut., R. War. R.), and to be Hon. Lieut.; R. H. Conran (T. Lieut., R.E.), and to be Hon. Lieut.; J. R. Orton (T. Lieut., Ches. R.), and to be Hon. Lieut.; L. J. Pugh (T. Lieut., Gen. List), and to be Hon. Lieut.; F. H. Johnston (T. Lieut., G. Bn., North'd Fus.), and to be Hon. Lieut.; J. S. Arthur, M.C. (Lieut., R.F.A.), and to be Hon. Lieut.; April 14th. K. E. Wright (2nd Lieut., R.F.A., S.R.), and April 15th. W. C. G. Cribbitt (Lieut., Lond. R., T.F.), and to be Hon. Lieut.; April 16th.

Temp. Lieuts., Obs. Ofcs., to be Temp. Lieuts. (A. and S.):—J. Hawke, W. Steer; April 5th. O. W. Jones; April 8th. J. B. M. Barnum; April 9th. B. S. Alexander, E. M. Pocock, F. P. Adams; April 14th. J. J. St. L. Martin, S. Seed; April 16th.

Temp. 2nd Lieuts. (late Gen. List, R.F.C., on prob.), to be confirmed in their rank as Temp. 2nd Lieuts., A. and S.:—L. F. Mead; April 3rd. S. Leigh; April 5th. H. V. Evans, A. Roberts, F. A. Vandenberg; April 6th. C. C. A. Leppan; April 7th. V. J. W. G. Shaw; April 8th. R. Lane, G. B. Murray; April 9th. W. Comb, C. H. Philipp; April 10th. F. J. Brunton; April 12th. H. Rowlands; April 14th. A. C. Lamb, J. Groves, J. T. O'Brien-Saint; April 15th. A. Cairnie; April 16th. O. C. Roberts; April 17th. A. St. C. O'Leary; April 18th.

The following Prob. Flight Officers (late R.N.A.S.) are granted temp. commns. as 2nd Lieuts. (A. and S.):—S. H. Bazeley, G. C. Crowley, R. McI. Gordon, J. H. Grierson, N. V. Grimsditch, V. H. Hervey, W. B. Hughes, W. U. Ingram, R. E. Kestell, E. R. Lawson, A. C. Mann, J. H. Mesham, C. R. Moore, J. H. Sprott, C. E. V. Taylor, J. M. Wilson, C. C. Woods; April 3rd. J. F. Wood, W. B. Craig; April 4th. C. G. Abel, C. P. Sparkes, G. M. Hughey, J. Wooding, E. MacK. Paris, J. F. L. Wood, L. J. French; April 5th. K. W. J. Oldridge, H. C. Mills; April 20th. W. A. Foot; April 21st. A. C. Davis, R. A. Yates, A. M. Sutherland, R. N. Heskeith, H. A. Pank, L. H. Nesbitt, M. F. McGregor, V. S. Grigg, G. Heath, L. V. Nicol, C. F. Mossman, A. T. Cross, A. C. Lloyd, J. R. A. Barnes, I. H. Grabonsky; April 24th. A. MacG. Anderson; April 29th. H. G. Sullivan, D. L. Melvin, P. R. Hale, C. B. Kempson, V. W. Morecroft, V. Vickers, R. A. H. Hamilton, A. C. G. Fowler, H. C. Petch, W. H. Paxman, R. H. Haworth-Booth; May 1st. H. C. Margrett; May 2nd. H. A. Haines, V. W. Lamb; May 3rd. H. Thomas; May 6th. G. M. Roberts, E. Colmer; May 7th. B. C. Dupont, A. V. Britnell, G. W. Wilson, R. W. C. Waugh, J. C. Leggett, A. R. Padmore, C. V. C. Wright, T. H. May, G. H. Range, C. F. J. Lisle, K. C. Gorringe, K. W. Jones, D. M. Matthews, E. C. Toy, R. C. Harley, J. H. C. Wake; May 8th. A. H. Partner, A. E. Ash, A. M. Stevens, J. A. Porter, J. B. Cunningham, H. E. Cooper, B. Sykes; May 10th. S. G. Burgess, J. E. Greenwell, C. H. J. Holden; May 12th. H. H. Hill; May 14th. F. Jardine, A. C. J. Anderson, W. R. Souther, E. J. Wing, G. F. Dupuy, V. Croome; May 15th. P. H. Maskell; May 6th. D. A. Roberts, J. E. Gow, A. H. Greatrex; May 17th. R. M. Morris, R. L. Pallett; May 19th. J. H. Gibbons; May 20th. F. S. Hall, H. L. Marshall; May 21st. V. T. Lloyd-Davies, L. J. Spence; May 22nd. A. C. Kermodie, E. M. Ackery, L. F. Hill, O. H. Young, L. A. Lewinton; May 23rd. A. J. Hunt, C. S. Davis, R. S. McCall, J. A. Munn, D. C. Prodder; May 24th. W. C. Parker; May 25th. P. R. Clare, L. Poulter; May 29th. J. H. McCaghey; May 30th. W. D. Redmond; May 31st.

The following Prob. Flight Officers (late R.N.A.S.) are granted temp. commns. as 2nd Lieuts. (K.B.):—D. A. B. Recordon, A. W. T. Chudley, C. A. Howe, J. Maclelland; April 26th. A. H. Barber, H. D. Wright, B. R. A. H. Davies, E. V. Henderson, L. A. Hill, C. H. Ratcliffe, N. Howl; April 27th. C. H. Beech; May 1st. A. N. Burningham, W. H. Gladwin, W. E. Sulway, E. S.

Billey, R. S. L. Levi, E. C. James, G. B. James, B. I. Beal, J. K. Loud; May 3rd.

F. A. Barley (2nd Lieut., R.G.A., S.R.) is granted a temp. commn. as 2nd Lieut. (K.B.); May 27th.

Temp. Lieut. H. G. Hall (A. and S.) to be Temp. Lieut. (Obs. Officer) May 7th.

W. Anderson, M.C. (2nd Lieut., R.G.A., S.R.), and is granted a temp. commn. as 2nd Lieut. (Obs. Officer); May 16th.

Capt. H. G. Kaye relinquishes his commn. on account of ill-health contracted on active service, and is granted the hon. rank of Capt.; June 12th.

Lieut. F. J. Martel resigns his commn., and is granted the hon. rank of Lieut. May 26th.

The following Lieuts. relinquish their commns. on account of ill-health contracted on active service, and are granted the hon. rank of Lieut.:—G. R. James, L. M. Williams; June 12th.

The following Lieuts. relinquish their commns. on account of ill-health contracted on active service:—B. N. D. Barr, M.C. (R.F.A., S.R.); C. W. P. May, M.C. (R.I. Regt., S.R.); F. B. O'Dowd (Midd'x R., T.F.); June 12th.

Lieut. J. A. Ainscow resigns his commn. to resume his medical studies, and is granted the hon. rank of Lieut.; June 12th.

Lieut. G. T. F. Hunter relinquishes his commn. on account of ill-health, and is granted the hon. rank of Lieut.; June 12th.

Lieut. L. L. Grant resigns his commn.; June 12th.

The initials of C. O. Rusden are as now described, and not as stated in Gazette, June 4th.

Administrative Branch.

A. W. C. McFall (Maj., Hon. Lieut.-Col., ret. pay) is granted a temp. commn. as Maj. and to be Temp. Lieut.-Colonel while employed as Courts-Martial President; May 6th.

H. Perry (Temp. Capt. in Army) is granted a temp. commn. as Maj. (April 15th, but with seniority from April 1st). (Substituted for notification in Gazette, May 3rd.)

G. G. Gold (Maj., Essex Yeo., T.F.) is granted a temp. commn. as Maj.; May 30th.

P. J. Whitty (Capt., R. Ir. Regt.) is granted a temp. commn. as Capt. and to be Temp. Maj. while employed as Maj.; May 21st.

The following are granted temp. commns. as Capt.:—L. F. Colebrook (Temp. Capt., R. Lanc. R.); April 18th. A. Ridley (Qrmr. and Hon. Capt., Lond. R.); May 23rd.

E. D. Shearn (Temp. Lieut., Hamps. R.) is granted a temp. commn. as Lieut. and to be Temp. Capt. while employed as Admin. Capt.; May 9th.

Lieut. (Temp. Capt.) G. C. Bateman retains temp. rank of Capt. while employed as Capt. on reversion from Staff Officer, 3rd Class; June 1st.

To be Temp. Capt. while employed as Capt.:—2nd Lieut. J. R. Bingham; April 18th. Lieut. L. T. Beddow; May 12th.

The following to be Administrative Lieuts.:—T. M. Goldon (from Obs. Lieut.), N. A. Hardie (from A. and S. Lieut.); April 18th.

2nd Lieut. T. P. Pritchard to be Temp. Lieut. while employed as Lieut.; May 20th.

W. N. Sloan (Capt., Sco. Rif.) is granted a temp. commn. as Lieut. and to be Hon. Capt.; May 23rd.

J. S. Stooke-Vaughan (2nd Lieut., R.G.A., S.R.) is granted a temp. commn. as 2nd Lieut. and to be Temp. Lieut. while employed as Lieut.; May 28th.

Lieut. (Temp. Capt.) W. P. Archer relinquishes his commn. on account of ill-health, and is granted the hon. rank of Capt.; June 12th.

Lieut. E. Duveen relinquishes his commn. on account of ill-health contracted on active service, and is granted the hon. rank of Lieut.; June 12th.

The following 2nd Lieuts. relinquish their commns. on account of ill-health, and are granted the hon. rank of 2nd Lieut.:—B. Holden, H. Ogden; June 12th.

The following 2nd Lieuts. resign their commns.:—C. M. H. Cordasco, W. J. V. Duncan; June 12th.

Technical Branch.

Maj. R. Hall to be Temp. Lieut.-Col. while employed as Lieut.-Col.; May 1st.

Lieut. (Temp. Capt.) C. St. Noble to be Temp. Maj. while employed as Maj.; May 1st.

Lieut. C. J. Pender to be Temp. Capt. while employed as Capt.; May 25th.

W. E. Jones to be 2nd Lieut., from (A. and S.) Lieut., and to be Hon. Lieut.; June 1st.

R. I. Wells (Lieut., S. Staffs. R., S.R.) is granted a temp. commn. as 2nd Lieut. and to be Hon. Lieut.; May 29th.

The notification in Gazette May 7th regarding 2nd Lieut. E. F. Cameron is cancelled.

Medical Branch.

2nd Lieut. (Temp. Capt.) G. W. Allen to be 2nd Lieut. (from Tech. Branch) and to retain his temp. rank which so employed; June 3rd.

The following are granted temp. commns. as Lieuts.:—L. C. W. Balls, C. S. Dowdell, A. G. Hewer, R. Mugliston, J. C. Smyth, R. A. Spong, H. L. Thorn; June 10th.

Memoranda.

Lieut. C. R. Alston to be Temp. Capt. while specially employed; June 11th.

The following relinquish their commns. on ceasing to be employed:—Lieut. S. L. Ward; April 8th. Capt. A. B. Johnson (Capt., Border R.); May 28th.

London Gazette, June 14th.

The following temporary appointments are made at the Air Ministry:—
Director.—Maj. (Temp. Lieut.-Col.) P. R. C. Groves, D.S.O., and to be Temp. Brig.-Gen. whilst so employed; May 27th.

Chief Inspector of Gymnasia (Staff Officer, 1st Class).—Capt. (Temp. Lieut.-Col.) E. G. H. Clarke, M.C.; April 1st. (Substituted for the notification in the Gazette of April 2nd.)

Assistant Inspector of Gymnasia (Staff Officer, 2nd Class).—J. E. Speranza (Temp. Maj.), att'd. R.W. Surr. R.), and is granted a temp. commn. as Maj.; May 14th.

Staff Officer, 2nd Class.—Capt. (Temp. Maj.) G. S. Peacock; April 1st. Capt. (Temp. Maj.) N. Sladden; June 3rd.

Staff Officers, 4th Class.—J. W. Hustwaite (Temp. and Lieut., Labour Corps), and is granted a temp. commn. as 2nd Lieut., and to be Temp. Lieut. whilst so employed; April 1st. 2nd Lieut. E. G. Clement, and to be Temp. Lieut. whilst so employed; May 31st.

The following temporary appointments are made:—
Staff Officers, 1st Class, and to be Temp. Lieut.-Cols., whilst so employed:—Capt. J. A. M. Lang, Lieut. D. N. Thomson, M.C.; April 1st.

Staff Officer, 2nd Class.—Lieut. (Temp. Capt.) R. G. Mitchell, and to be Temp. Maj. whilst so employed; April 1st.

Staff Officer, 4th Class (P.).—Lieut. A. H. Goldie; April 6th.

Flying Branch.

Maj. G. F. H. Faithful to be Temp. Lieut.-Col. whilst employed as Lieut.-Col. (K.B.); June 3rd.

Capt. (Temp. Maj.) L. F. Richard to retain his temp. rank whilst employed as Maj. (A. and S.); April 9th.

Lieuts. to be Temp. Capts. whilst employed as Capts. (A. and S.):—(Hon. Capt.) C. E. S. Lusk; May 8th. W. J. A. Duncan; May 18th. G. E. Wait; May 23rd. (Hon. Capt.) A. W. Farquhar; May 27th. R. J. Dawes (Hon. Capt.) C. B. Glynn, C. E. Howell, T. F. Williams, M.C.; June 1st. H. J. Hunter; June 2nd. R. O. Purry; June 5th. C. W. Busk, M.C., L. G. Wood; June 6th. H. S. P. Walmsley; June 7th.

Lieut. (Hon. Capt.) B. E. Harrison to be Temp. Capt. whilst employed as Capt. (O.); June 8th.

The following Temp. 2nd Lieuts. (late Gen. List, R.F.C., on prob.) are confirmed in their rank as Temp. 2nd Lieuts. (A. and S.):—H. M. Pasmore, M. de W. Bamberger; April 2nd. T. F. Kesterton, W. Endersby; April 4th. G. F. Birchard, C. H. Kayler; April 5th. A. C. Gray, T. E. Birbeck; April 6th. J. R. Fournier; April 7th. W. A. Macfarlane, W. J. Prangley, T. S. Gordon, N. Kirkpatrick, G. C. Macklem; April 8th. W. B. Tait; April 18th. N. F. Hoxie; April 23rd. G. S. Reid; April 30th. J. Fulton, J. A. Gilchrist; May 2nd. J. Stewart; May 4th. R. C. Davies, E. H. Mulley, M. C. Brown; May 6th. P. B. Myers, E. Barrett; May 7th. K. A. Nelson, H. Dabney, T. G. Hobbs, G. W. D. Fogg; May 8th. V. S. Stevens, J. W. Cox, J. T. Potts, T. Buchanan, R. E. M. Milne, R. P. Bourne; May 9th. F. J. Church, R. G. McLaren, P. H. Desarmeu, H. B. Oldham, E. P. J. Hull, W. S. Murray, H. M. S. Parsons, M. N. Cloete, W. S. Rycroft; May 10th. C. Dyson, G. Rogerson, D. C. Anderson, M. E. Bradley, C. H. Stephens, E. E. Bricknell, J. W. Ratcliffe, W. Sanders, A. F. Wallace, G. E. Davidson, R. Cookson, A. E. Holmes, D. R. Day, J. Macdonald, S. D. Blanchard; May 11th. J. Olorenshaw, J. V. Lind, W. F. Woodland; May 12th. A. J. Robinson, B. W. Hopkins, W. S. Greenwood, T. M. Ritchie, H. E. Cowley, E. H. W. Darley, E. V. Bond, E. J. Mulholland, A. C. S. Hawkins, C. D. Boothman, R. O. Campbell, D. C. Childs; May 13th. G. C. S. Bowring, R. G. Nicholls, F. E. Finch, J. S. Stringer, A. F. White, G. F. Bassett, J. Newhill, R. E. H. Goodhead, G. A. Le Moine, L. F. Marshall, W. E. Hall; May 14th. W. R. Binch; May 16th.

H. W. Stockdale (late Temp. Capt., Gen. List, R.F.C.) to be Temp. 2nd Lieut., A. and S., and to be Hon. Capt.; May 11th.

The following proby. Flt. Officers (late R.N.A.S.) are granted temp. comms. as 2nd Lieuts. (A. and S.):—C. H. Porter, C. B. Smith, T. G. Stubbley, J. T. Dupuy; May 28th. D. F. Martin-Smith, W. R. S. Henderson, H. K. Russell, C. C. Crossley, E. S. McLeod, H. D. Morley, J. A. H. Pegram, J. Malcolm, B. L. Cook, C. Walker, G. B. Shillaker, J. G. Nash, W. W. McBain, E. R. Hiscocks, J. F. Fraser, R. G. Nunn, B. Hearne, D. A. Colquhoun, F. J. H. Ayscough, T. N. Barling, S. Cox, A. W. Hardwick; May 29th. E. A. Fames; May 30th. R. A. Jacquot, R. Sheppard, D. MacDougall, T. B. Simpson, E. R. Perciva; May 31st. G. K. Lucas; June 1st.

The following proby. Observer Officers (late R.N.A.S.) are granted temp. comms. as 2nd Lieuts., Obsrv. Officers:—C. J. T. Boys; April 25th. W. M. C. Baber, A. Boyd, R. H. S. Calver, C. W. Dodds, J. Drake, G. P. Emery, J. G. M. Farrall, J. S. Harrison, F. Hopwood, M. E. Meredith, C. J. Smith, D. E. Spalton, R. L. Stevenson, I. D. Stewart, G. B. Treadwell, J. C. Wallace; May 6th. W. F. Gibson; May 17th.

The following prob. Flight Officers (late R.N.A.S.) are granted temp. comms. as 2nd Lieuts. (Dir.):—D. P. Davidson, R. W. Foslee, H. D. Lane, H. F. Luck, H. W. Pickford, W. P. Bird; May 8th.

The following are granted temp. comms. as 2nd Lieuts. (A. and S.):—J. F. Clement (Lt., Albert R., C.E.F.), and to be Hon. Lieut.; May 5th. L. Brown (Temp. Lieut., York and Lanc. R.) and to be Hon. Lieut.; May 6th. E. C. Hocking (Lieut., R.F.A., S.R.) and to be Hon. Lieut., R. W. Drewett (2nd Lieut., Lond. R., T.F.); May 8th. J. Donaldson (Lieut., Sea. Highrs., T.F.) and to be Hon. Lieut.; May 9th. A. J. Thomas (Lieut., A.S.C., S.R.) and to be Hon. Lieut., E. H. Umbers (2nd Lieut., W. York R., T.F.); May 10th. P. G. Clarabut (Temp. 2nd Lieut., att'd. E. Kent R.), H. G. Bloodworth (Lieut., R.E. Kent Yeo., T.F.), and to be Hon. Lieut., N. D. Lambert (2nd Lieut., R.F.A., S.R.), R. L. G. Wright (Temp. Lieut., R. Lanc. R.) and to be Hon. Lieut., A. J. Cyr (Lieut., Can. Forestry Corps, C.E.F.) and to be Hon. Lieut.; May 11th. E. O. Scarborough (2nd Lieut., L'pool R., T.F.), J. S. Nicoll (Lieut., R. Highrs., T.F.) and to be Hon. Lieut., P. McCaig (Lieut., Scot. Horse, Yeo., T.F.), and to be Hon. Lieut., A. M. Diamant (Lieut., R.F.A., S.R.), and to be Hon. Lieut.; May 12th. R. N. Hamilton (Lieut., Bucks Yeo., T.F.), and to be Hon. Lieut., J. H. Weatherill (Temp. 2nd Lieut., att'd. Ches. R.), W. Bonner (Temp. 2nd Lieut., att'd. R. Lanc. R.), E. P. J. Touche (Temp. 2nd Lieut., Essex R.); May 13th. E. G. Gaff (2nd Lieut., R. W. Kent R., T.F.), S. Walker (2nd Lieut., Camb. R., T.F.), O. S. Brown (Temp. 2nd Lieut., att'd. K.O.S.B.); May 14th.

The following are granted temp. comms. as 2nd Lieuts. (K.B.):—E. Nordberg (Temp. Lieut., A.S.C.) and to be Hon. Lieut.; April 1st. H. S. Starkey (Lieut., Wilts. R., T.F.) and to be Hon. Lieut.; May 29th. F. D. Wemyss (2nd Lieut., R.G.A., S.R.), H. J. Palmer (2nd Lieut., R.G.A., S.R.); May 30th.

The following cadets are granted temp. comms. as 2nd Lieuts. (A. and S.):—P. H. Take, W. L. Dean, C. F. Kearns; April 1st. F. W. Tucker; April 3rd. R. M. Craigmyle, A. M. Allan, T. M. MacIntyre, C. A. Robotham, G. A. Ruffridge, H. D. Wilshire, H. G. Yerg, W. R. Maxwell, O. L. Nicholls; April 6th. W. L. Lanigan; April 12th. M. C. Abrams, G. K. Alling, W. Du Pre Arthur, Jr., H. Atherton, H. E. Bourke, F. H. Bellinger, A. E. Buckingham, H. C. Cook, L. F. Callaway, H. H. Gunther, A. F. Head, R. M. Herbert, N. G. Holtby, N. Jones, J. A. Mackay, F. D. McGuire, J. O. McLellan, F. T. Mollard, J. C. Morgan, F. Mulcair, W. M. Munshaw, J. A. O'Neill, C. G. Parmelee, W. S. Phelps, A. R. Quirk, S. S. Rackrowe, C. D. Reid, C. N. Reinhardt, R. M. Rodgers, M. R. Shier, J. F. Stafforff, Jr., M. A. Jordan; April 18th. C. A. Echlin, G. E. Douglas, C. A. Denzel, P. S. Crovat, O. S. Clefstad, I. W. Clarke, A. G. Clarke, F. L. Chapin, F. Cameron, C. H. Billings, H. S. Baines, E. L. Bach, M. H. Aten, C. W. Appley, E. J. Ellis, J. B. Fast, H. E. Fox, T. Fraser, W. G. Freel, G. W. Garner-Smith, S. N. Giroux, T. H. Heintzman, H. A. Henry, G. W. Hopkins, C. A. James, H. Jamieson, N. A. Jamieson, H. W. Jassby, D. H. P. Johnson, P. M. Keary, J. W. King, G. W. Kitchen, W. F. K. Kretmar, G. W. Lazenby, R. G. Lebeau, A. J. Lowry, A. McDonald, D. St. C. MacDonald, A. W. McHardy, G. E. Meisenheimer, H. Morrow, W. G. Murdoch, H. E. Peer, A. H. Petch, F. W. Present, W. R. Reid, E. W. Roesch, N. E. Rostedt, W. H. Saunders, W. E. Searle, T. W. Seymour, W. G. Sibary, E. G. Smith, W. N. Stanley, C. D. Stephenson, L. Thompson, F. M. Tobin, W. V. Tomlinson, G. R. Toms, H. Walden, E. T. Wales, G. V. Wales, L. Werner, C. O. White, M. K. Work, C. L. Arnold, G. B. Emery, G. R. Fleming, P. V. Holder, A. F. Inch, H. C. Wright; April 24th.

The following cadets are granted temp. comms. as 2nd Lieuts. (Observer Officers):—J. Taylor, J. S. Wharrie-Smith, L. E. Tremayne, E. P. Eveleigh, W. H. Webber, A. J. Waters, R. W. Blundell, W. C. Stannard, G. W. Osborne June 1st.

C. P. Vivian (late Lieut., R.A.F.) is granted the hon. rank of Lieut.; May 4th. The surname of 2nd Lieut. H. Tannebaum is as now described, and not as stated in the *Gazette* of June 4th.

The notification in the *Gazette* of May 28th regarding 2nd Lieut. W. B. Clarke, M.C., is cancelled.

The names of 2nd Lieut. C. H. Dickens are as now described, and not as in the *Gazette* of May 28th.

The initials of 2nd Lieut. T. McC. Scott are as now described, and not as stated in the *Gazette* of May 28th.

Lieut. F. G. Detmold relinquishes his commission on account of ill-health

contracted on active service, and is granted the hon. rank of Lieut.; June 15th.

Lieut. J. E. Beveridge resigns his commn., and is granted the hon. rank of Lieut.; June 15th.

Lieut. G. F. C. Rawlings is dismissed the Service by sentence of a Gen. Court-martial; May 20th.

Administrative Branch.

P. W. Alexander (Maj., Res. of Off.) is granted a temp. commn. as Maj., and to be Temp. Lieut.-Col. whilst employed as Courts-Martial President; June 3rd.

Capt. (Temp. Maj.) retain their temp. rank whilst employed as Maj.; L. Legg; April 2nd. W. C. Campbell, D.S.O., M.C.; April 14th. A. P. Pargiter; May 21st.

H. Vyvyan-Robinson (Temp. Capt., Spec. List) is granted a temp. commn. as Capt.; May 13th.

To be Temp. Capts. whilst employed as Capts.:—2nd Lieut. W. H. D. Chamberlain; April 1st. Lieut. E. E. Colquhoun; May 26th.

H. W. Burleigh is granted a temp. commn. as 2nd Lieut., and to be Temp. Capt. whilst specially employed; May 8th.

The following are granted temp. comms. as Lieuts.:—A. H. Burman (Temp. Lieut., A.S.C.); May 23rd. C. W. A. Millar (late Capt., Lond. R.), and to be Hon. Capt.; May 24th. H. S. Bloodworth (Temp. Lieut., Lancs. Fus.); A. E. Brooks (Gr.-Mr. and Hon. Capt., Spec. List), and to be Hon. Capt.; May 28th. H. W. Bunbury (Capt., Suff. R.), and to be Hon. Capt.; May 30th. J. H. Menzies (late Capt., R. Scots.), and to be Hon. Capt.; June 1st. K. H. Leake (Lieut., L. N. Lanc. R.); June 3rd.

The following are granted temp. comms. as 2nd Lieuts.:—A. A. Pollitt, H. W. Rigden; June 6th. B. Ninnies, J. P. Strydom; June 7th. J. G. Bennett; W. F. Bevis, H. G. Bright, C. F. Bulmer, T. G. Callard, H. E. Crowcroft, S. U. Dent, J. H. Everett, A. E. M. Fortescue, and to be Temp. Capt. whilst specially employed. H. Gambier, B. R. Howell, D. C. Manuel, S. F. Marsh, A. Musgrove, E. S. Peters, H. E. Ray, A. H. Ross, J. G. McK. M. Stronach, L. Wardle-Donald; June 10th.

B. St. J. H. Atteridge (late 2nd Lieut., R.A.F.) is granted the hon. rank of 2nd Lieut.; May 4th.

The following 2nd Lieuts. relinquish their comms. on account of ill-health contracted on active service, and are granted the hon. rank of 2nd Lieut.:—A. G. C. W. Faulkner, S. D. Gardiner, H. E. Purnell, T. W. C. Terry; June 15th.

2nd Lieut. J. Phillips relinquishes his commn. on account of ill-health caused by wounds, and is granted the hon. rank of 2nd Lieut.; June 15th.

The notification in *Gazette*, June 4th, regarding the undermentioned officers (R.D.C.) is cancelled:—C. F. Campbell, C.I.E.; C. G. Toswill, B. M. B. H. Gyll-Murray, R. C. Campbell, R. C. Bacon, W. F. Shakespear, R. S. C. de Chaffey, W. Ricketts, Henry F. Roberts, W. A. Dewhurst, J. R. M. Tweddell, J. R. Fox, H. H. Bunn, W. J. Hipkin, H. R. M. Dodd.

The notification in *Gazette*, May 21st, regarding S. C. McCully, is cancelled.

Technical Branch.

To be Temp. Lieut.-Cols. whilst employed as Lieut.-Cols.:—Capt. (Temp. Maj.) S. S. Kennedy; April 28th. Maj. E. W. Stedman; May 1st.

To be Temp. Maj. whilst employed as Maj.:—Lieut. C. J. Brockbank; April 2nd. Capt. F. H. Songhurst; April 7th.

Lieuts. to be Temp. Capts. whilst employed as Capts.:—H. E. Hotchin; May 31st. E. D. L. Davies; June 7th.

Temp. Lieuts. (Observer Officers) to be Temp. Lieuts.:—G. R. Thorne, H. L. Waddington; May 22nd.

Temp. 2nd Lieuts. (Admin.) to be Temp. 2nd Lieuts.:—R. L. Bardon-Sanderson, T. Hodgson; May 22nd. R. J. Berry; May 25th.

Temp. 2nd Lieuts. (late Gen. List, R.F.C., on prob.) are confirmed in their rank as Temp. 2nd Lieuts.:—C. B. Stamp, A. J. Maurer; May 22nd. G. L. Platfoot, R. H. Semmence; May 25th. G. Wade; May 30th.

The following are granted temp. comms. as 2nd Lieuts.:—W. A. T. Hunter (Temp. Lieut., R. Ir. Rif.), and to be Hon. Lieut., H. W. Dunk (2nd Lieut., City of Lond. Yeo., T.F.); May 22nd. T. H. Gill (Lieut., Durh. L.I., T.F.), and to be Hon. Lieut.; J. H. Chester-Walsh (Temp. Lieut., A.S.C.), and to be Hon. Lieut.; J. W. Carroll (Temp. Lieut., Durham, L.I.), and to be Hon. Lieut., A. C. White (Temp. Lieut., R.E.), and to be Hon. Lieut.; F. H. Alder (2nd Lieut., R.F.A., S.R.); S. A. Bond (2nd Lieut., Midd'x R., T.F.); L. C. Bottoms (2nd Lieut., R.F.A., S.R.); R. P. McDougall (2nd Lieut., R.F.A., T.F.); A. R. Parker (2nd Lieut., R.G.A., S.R.); May 25th. The notification in *Gazette* May 17th, regarding W. T. Barber is cancelled.

Memoranda.

2nd Lieut. R. A. Caldwell (late Lieut., Can. Forces) is granted the hon. rank of Lieut.; April 1st.

Lieut. (Hon. Capt.) G. W. Swanson (Capt., Hamps. R., T.F.) relinquishes his commn. on ceasing to be employed; May 19th.

Royal Flying Corps (Military Wing).

London Gazette Supplement, June 10th.

Military Wing.—The following appointments are made:—**Staff Officer, 3rd Class.**—Graded as a Staff Capt.—Temp. Lieut. J. S. Webb, Gen. List, from a Flying Officer (Obs.), and to be Temp. Capt. whileso employed; March 1st.

Flying Officers.—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—S. Chapman; Sept. 27th, 1917. J. T. Davidson; March 26th. N. M. Smith; March 30th.

Appointment of Temp. 2nd Lieut. S. I. Chapman, Gen. List, notified in *Gazette*, Oct. 23rd, 1917, is cancelled.

The appointment of 2nd Lieut. J. R. Patterson, R.F.A., S.R., notified in *Gazette* July 13th, 1917, is antedated to April 18th, 1917.

The appointment of Temp. 2nd Lieut. W. P. Lancaster, Gen. List, notified in *Gazette* Feb. 7th, is antedated to Nov. 24th, 1917.

Flying Officers (Observers).—Lieut. W. V. Hyde, R. Innis, Fus., S.R., from att'd. M.G. Corps; Sept. 25th, 1917, seniority Aug. 22nd, 1917. Lieut. J. W. E. Jamieson, Rif., Ind. Army, seniority Aug. 22nd, 1917; 2nd Lieut. H. S. Green, Ind. Army Res. of Off., seniority Sept. 21st, 1917. Temp. 2nd Lieut. P. D. Kirk, R.W. Kent R., seniority Sept. 24th, 1917, and to be transf'd. to R.F.C., Gen. List; Temp. 2nd Lieut. G. S. Oddie, L'pool R., seniority Sept. 26th, 1917, and to be transf'd. to R.F.C., Gen. List; Feb. 23rd, 1917. Temp. Lieut. A. C. Walker, Garr. Bn., Befd. R., and to be transf'd. to R.F.C., Gen. List; Jan. 24th, seniority Nov. 28th, 1917.

The seniority of Temp. 2nd Lieut. W. J. Matthews, Tank Corps, notified in *Gazette* Feb. 8th, is antedated to Aug. 23rd, 1917, without pay or allowances prior to Jan. 12th.

The appointment of Lieut. H. E. Rosborough, Canadian Forestry Corps, notified in *Gazette* April 17th, is antedated to Jan. 10th, seniority Oct. 25th, 1917.

Equipment Officer, 3rd Class.—Temp. 2nd Lieut. (on prob.) A. H. James, Gen. List, and to be confirmed in his rank; March 22nd.

General List.—To be Temp. 2nd Lieuts.:—3rd Class Air Mech. C. Wilson, from R.F.C.; Feb. 12th. Pte. H. Reeves, from A.S.C.; Feb. 18th.

To be Temp. 2nd Lieuts. (on prob.):—R. C. Mills, J. R. Robbins, V. O. Norman, R. F. B. Campbell; March 6th. A. R. Mobbs; March 21st. A. C. Gray, T. F. Kesterton; March 23rd. T. E. Birbeck, A. Popini; March 29th. J. G. Elliott, L. Crone, A. M. Duggan, E. G. Jones, C. F. Yokom, A. B. Macpherson, J. C. J. McDonald, L. J. Weatherall, E. L. French; March 30th.

Temp. Lieut. C. W. T. Riley, Gen. List, to be Temp. Capt. (without the pay or allowances of that rank) while acting as Adj., vice Temp. Lieut. J. S. Curtis, Gen. List, who relinquishes the temp. rank of Capt.; March 20th.

London Gazette Supplement, June 11th.

The following appointments are made:—
Squadron Commanders.—And to be Temp. Maj. while so employed:—Temp. Capt. S. S. Halse, Gen. List, from a special appointment (graded as a Flight Comdr.); Dec. 16th, 1917. From Flight Comdrs.:—Temp. Capt. E. R. Manning, M.C., Gen. List; Lieut. (Temp. Capt.) H. B. Prior, S.R.; Capt. A. S. Redfern, R.W. Surr. R. (T.F.); Capt. (Temp. Maj.) L. P. Aizlewood, M.C., York and Lanc. R. (T.F.), from a Chief Instr. (graded as a Sqdn. Comdr.), School of Aerial Fighting, and to retain his temp. rank while so employed. From Flight Comdrs., and to be Temp. Maj. while so employed:—Lieut. (Temp. Capt.) H. F. Champion, Rif. Brig., S.R.; Lieut. (Temp. Capt.) R. W. Heath, S.R.; Jan. 1st. Capt. J. O. C. Orton, Norf. R.; Feb. 9th. Temp. Capt. H. S. Powell, M.C., Gen. List; Feb. 18th. Lieut. (Temp. Capt.) W. E. Collison, S.R.; Feb. 20th. Lieut. (Temp. Capt.) H. A. Wood, M.C., S.R.; March 1st. Capt. (Temp. Maj.) W. A. Bishop, V.C., D.S.O., M.C., Canadian Light Horse, from a Chief Instr. (graded as a Sqdn. Comdr.), Schools of Aerial Gunnery, and to retain his temp. rank while so employed March 13th, seniority Aug. 28th, 1917. From Flight Comdrs., and to be Temp. Maj. while so employed:—Lieut. (Temp. Capt.) A. C. Wilson, Lrs.; March 16th. Capt. G. C. Pirie, M.C., Sco. Rif., S.R.; March 25th. 2nd Lieut. (Temp. Capt.) A. Coningham, D.S.O., M.C., S.R.; March 26th.

Flying Officers.—Capt. C. A. Moore, Manitoba R., Can. Exped. Force; March 13th. The appointment of Lieut. C. A. Moore, N. Brunswick R., Can. Exped. Force, notified in *Gazette*, April 20th, is cancelled.

Flying Officer (Observer).—Lieut. E. A. V. Ellerbeck, Yeo. (T.F.), and to be secd.; Sept. 28th, 1917, seniority Aug. 1st, 1917.

Equipment Officers, 3rd Class.—2nd Lieut. K. D. de Jongh, Hamps. R., S.R., and to be secd.; Feb. 14th. Lieut. E. A. Baker, M.C., R. Suss. R., and to be secd.; Lieut. C. Bishop, Lond. R. (T.F.) (late Imp. Yeo.), and to be secd.; Lieut. E. L. Rhodes, R.G.A., S.R.; Temp. 2nd Lieut. V. F. Spurgeon, N. Lan. R., and to be transfd. to R.F.C., Gen. List; Feb. 18th. Temp. 2nd Lieut. (on prob.) B. V. Seaward, Gen. List, and to be confirmed in his rank; Dec. 1st, 1917.

General List.—To be Temp. 2nd Lieuts.:—Bdr. D. C. Evemy, from R.A.; March 3rd. Gar. A. A. Mound, from R.A. (T.F.); March 10th.

To be Temp. 2nd Lieuts. (on prob.):—E. McIver; Feb. 14th. Pte. F. H. Whitlock, from Can. A.M.C.; March 8th.

London Gazette Supplement, June 12th.

Flying Officers.—The appointment of Temp. 2nd Lieut. H. C. Stanyon, Gen. List, notified in *Gazette* of May 4th, is antedated to Feb. 7th.

The following appointments are made:—

Flying Officers (Observers).—Lieut. K. L. Williams, Ind. Army Res. of Off., a Flying Officer, from Dec. 23rd, 1915, to May 29th, 1917, with the pay and allowances of that appt., and with seniority from Oct. 21st, 1915. Lieut. J. B. Carr, Midd'x. R. (T.F.), and to be secd.; Dec. 10th, 1917, with seniority from Oct. 19th, 1917. Temp. 2nd Lieut. A. Leach, Br. W. Ind. R.; March 31st, with seniority from Nov. 20th, 1917. Lieut. P. L. Ward, R.F.A. (T.F.), and to

be secd.; Feb. 28th, with seniority from Dec. 28th, 1917. Lieut. E. Betley, R.G.A., S.R.; March 27th, seniority Dec. 29th, 1917. Lieut. E. M. Chant, Br. Columbia R., Canadian Exped. Force; March 24th, seniority Jan. 21st. 2nd Lieut. A. R. Harrison, W. York R. (T.F.), and to be secd.; March 29th, seniority Jan. 22nd. 2nd Lieut. D. A. Buchanan, Sco. Rif. (T.F.), and to be secd.; March 24th, seniority Jan. 28th. Lieut. N. A. MacFarlane, E. Lan. R., S.R., and to be secd.; Jan. 31st, seniority Jan. 29th. With seniority Feb. 28th:—Lieut. C. C. F. Ekins, Essex R. (T.F.), and to be secd.; March 24th. 2nd Lieut. F. H. Thorp, Manch. R. (T.F.), and to be secd.; March 29th. With seniority March 6th:—Temp. 2nd Lieut. R. A. Steel, attd. Rif. Brig., and to be transfd. to R.F.C., Gen. List; March 26th. 2nd Lieut. S. H. Pickles, Yeo. (T.F.), and to be secd.; March 27th. Lieut. J. B. Martin, Br. Columbia R., Canadian Exped. Force; March 27th, seniority March 7th. 2nd Lieut. H. Carbines, L'pool R. (T.F.), and to be secd.; March 26th, seniority March 22nd.

Equipment Officers, 1st Class.—Lieut. H. Wing, S.R., from the 2nd Class, and to be Temp. Capt. while so employed; March 31st.

2nd Class.—From the 3rd Class.—Capt. D. A. English, Lond. R. (T.F.); Jan. 19th. Capt. R. W. Morison, Yeo. (T.F.); March 29th.

3rd Class.—Temp. 2nd Lieut. E. S. Steady, Gen. List; Jan. 10th. 2nd Lieut. C. Littlejohn; Feb. 19th. And to be transfd. to R.F.C., Gen. List:—Temp. Lieut. L. G. Martin, attd. Wilts. R.; March 18th. Temp. 2nd Lieut. C. C. Hicks, Garr. Bn., Worc. R.; March 28th. Temp. 2nd Lieut. G. R. Hanson, R. Fus.; March 30th. Capt. G. G. Watson, M.C., Worc. R. (T.F.), and to be secd.; March 31st.

Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—J. H. Glaw; March 11th, 1917. J. R. Rayneau; Feb. 18th. A. C. Whitney; March 1st. A. J. Howard; March 8th. G. E. Suter; March 12th. R. W. Selby, H. G. Smith, J. Tyler, F. P. Reavey, G. A. Slater; March 28th.

General List.—To be Temp. 2nd Lieuts.:—Gnr. L. Wilson, from M.G.C.; Feb. 27th. Bomdr. Cpl. A. McDonald, from M.G.C. (Motor); March 2nd. Cpl. F. Latimer, from K.A.M.C. (T.F.), Pte. L. Barron, from M.G.C., Gnr. A. St. C. O'Leary, from M.G.C. (Motor); March 3rd. Bomdr. Qrmr.-Sgt. W. H. Bayley, from R.A.; March 8th.

London Gazette Supplement, June 13th.

The following appointments are made:—
Squadron Commander.—Temp. Maj. S. E. Parker, Gen. List, from a special appointment (graded as a Sqdn. Comdr.); Feb. 12th.

Flying Officers.—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—M. P. Crane; Dec. 19th, 1917. W. C. Lynch; Dec. 31st, 1917. V. J. Clow; March 12th. J. Y. Remnitz; March 21st. D. Miller; March 22nd. F. W. E. Perry, A. MacKenzie; March 26th. A. Newark, H. L. Smith, F. G. Wells; March 27th.

Flying Officer (Observer).—Temp. Lieut. P. H. Clarke, R.A., and to be transfd. to R.F.C., Gen. List; Feb. 18th, seniority Dec. 11th, 1917. (Substituted for notification in *Gazette* March 20th.)

General List.—Sgt. E. A. Gay, from R.F.C., to be Temp. 2nd Lieut.; March 23rd. (Substituted for notification in *Gazette* April 25th.)

To be Temp. 2nd Lieuts.:—Motor Cyc. Cpl. E. McM. Spinney, from R.E. (T.F.); Feb. 27th. Spr. G. A. Madin, from R.E., Tpr. R. P. Arliss, from M.G.C.; March 3rd. Actg. Cpl. G. F. Poole, from A. Ord. Dept.; March 10th.

AVIATION IN PARLIAMENT.

Hospitals Bombed by Germans.

Mr. JOYNSON-HICKS, in the House of Commons on June 10th, asked how many times during the last three weeks the Germans have bombed our hospitals on the northern coast of France; and what are the casualties in killed and wounded of soldiers, doctors, and nursing staff?

Mr. Macpherson: A recent report from the Commander-in-Chief shows that during the period from May 15th to June 1st hospitals have been bombed on seven occasions. The casualties occurring in hospitals are not given separately from those caused in the district by the same raid. The total casualties in these seven raids were as follows:—

Killed.		
Officers ..	..	11
Other ranks ..	..	218
Sisters ..	..	5
Queen Mary's Army Auxiliary Corps ..	..	8
Civilians ..	..	6—248
Wounded.		
Officers ..	..	18
Other ranks ..	..	534
Sisters ..	..	11
Queen Mary's Army Auxiliary Corps ..	..	7
Civilians ..	..	23—593
Total casualties ..	..	841

Mr. JOYNSON-HICKS: Has the War Cabinet considered that no steps can be taken in the way of reprisals in this matter?

Mr. Speaker: The hon. member must give notice of that question.

Mr. JOYNSON-HICKS asked the Under-Secretary of State for War whether he is aware that one John Faller, an unnaturalised German, is manager of the Royal Oak Hotel, Wotton-under-Edge; whether the Home Office has declined to intern him; whether there are 70 discharged soldiers in that village, many of whom would be perfectly capable of doing the work now done by this German; whether the Government are really serious in their desire to get wounded soldiers back into employment; and, if so, whether steps will be taken to get rid of this German, who has done nothing for the country, in order that his place may be filled by a wounded English soldier?

Mr. Macpherson: As regards the first part of the question, I am afraid that I can add nothing to the reply given on May 30th by my right hon. friend the Home Secretary. The employment of wounded or disabled soldiers is a matter which is dealt with by the Ministry of Labour, in conjunction with the Ministry of Pensions.

Aeroplanes Over Irish Meeting.

Mr. KING, on June 12th, asked the Under-Secretary of State for War whether he is aware that on May 26th five aeroplanes went up at Cullen, County Cork, and continued to circle very low over a meeting for singing, bagpipe music, and dancing, called an aeridhacht, that flame rockets were dropped repeatedly, and that the public interpreted these manoeuvres as intended to terrify and disperse the gathering; whether this use of the aeroplanes was made on police or military orders; and whether, in view of the greater need of our air forces elsewhere, such air demonstrations in Ireland will be discontinued?

Mr. Macpherson: Five aeroplanes did circle over a meeting at Cullen on May 26th, at the request of the military authorities. The five machines used were for training purposes.

Mr. KING: Can we have an assurance that this is a very exceptional incident, and that aeroplanes will not be used to terrorise a peaceful meeting?

Brigadier-General McCalmont: Before the right hon. gentleman answers that supplementary question, may I ask whether loyal citizens with clear consciences have got anything to fear from British aeroplanes?

Mr. Macpherson: No, I think not. I cannot give any assurance such as my hon. friend asks.

Mr. KING: Is the right hon. gentleman not aware of the immense noise made by five aeroplanes flying over a meeting?

Mr. Speaker: When we have 120 questions on the paper, it is a pity to waste time in this way over such a small matter.

Royal Air Force (Training Casualties).

Mr. MORRELL, on June 13th, asked the Under-Secretary of State to the Air Ministry whether his attention has been called to the loss of life that occurs amongst officers undergoing instruction in flying; whether in the year 1917 nearly 800 pilots lost their lives in the training grounds of this country alone; whether in the opinion of many competent men a large proportion of these accidents might have been prevented if the use of parachutes had been allowed, and that a type of parachute suitable for this purpose has now been perfected; and whether, under these circumstances, he will give permission for officers to provide themselves at their own expense with parachutes, as many have desired to do, and to go through a course of parachuting at the time they receive instruction in flying?

The Under-Secretary of State to the Air Ministry (Major Baird): The hon. member will be glad to know that the total number of fatal flying accidents during training in this country in the period referred to was much smaller than the figure quoted in the question. I cannot agree with the suggestion contained in the third part of the question, though experiments are being and will continue to be made. I would add that the great majority of accidents occur in circumstances in which it could not be hoped that any kind of parachute would be of avail.

Mr. Morrell: If I am able to bring some facts before the hon. and gallant gentleman, will he make further enquiries as regards a suitable parachute?

Major Baird: Certainly!

Aeroplanes at an Aeridhacht.

Mr. KING asked the Chief Secretary to the Lord Lieutenant of Ireland whether he is aware that on May 26th there was held at Cullen, County Cork, an aeridhacht, and during the singing and performances not only were many police present, but five aeroplanes appeared and for over an hour circled over the meeting, descending to the closest possible proximity to the crowd and dropping by their din the children's music, and that flame rockets were dropped from the planes close to the crowd, one of which set light to a thatched roof; whether the reinforcement of the police in this manner was by his orders or has his sanction; and, if not will he call for a report on this occurrence?

Mr. Samuel: I am informed that a meeting took place at Cullen on May 26th. The first part of the proceedings was for children and occupied less than half an hour. The rest of the meeting was occupied by speeches.

As regards the aeroplanes, I would refer the hon. member to the answer given by my right hon. friend the Under-Secretary of State for War yesterday.

I am informed that the people were more attracted by the flights of the aeroplanes, which were a novelty, than of the orators. Five police were present, but neither they nor my right hon. friend the Chief Secretary had anything to do with the appearance of the aeroplanes. There is no information as to the setting fire to a thatched roof by a flame rocket.

Mr. KING: May I ask whether the aeroplanes were not sent down as near as possible to the meeting, when the children were performing, and on future occasions of a similar character can that part of the aeroplane performance be deferred, so as not to interfere with little children's work?

Mr. Samuel: I understand the meeting was what the hon. member calls an aeridhacht, and that the aeridhacht was eclipsed by the aeroplanes. I have not the least doubt that they were much more entertaining and edifying.

AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

British.

"On the 9th inst. our flying squadrons, co-operating with the French on the Noyon-Montdidier battle front, were at work continually from dawn to dusk. Bombing aeroplanes impeded the enemy's advance, and harassed his troops and transport with constant machine-gun fire. Strong patrols of scout machines swept the battle area throughout the day, while high-flying aeroplanes protected those below from attack from above. Amongst targets hit by our airmen were an aerodrome near Roye, where hostile machines on the ground were set on fire; an ammunition dump at Montdidier, which went up in a sheet of flame; gun teams and wagons at Conchy; lorries at Lagny and Hainvillers, and infantry in trenches and on the roads along and behind the whole fighting line. On the British front there was little enemy activity in the air, but our machines carried out a good deal of artillery observation work, reconnaissances, bombing, and photography, until stopped by rain. One of our artillery machines forced a German two-seater to land and surrender on the aerodrome to which our machine belonged. In addition to this machine, 14 other German aeroplanes were brought down by us and four others were driven down out of control. A hostile balloon was shot down in flames. Four of our machines are missing."

Admiralty, June 11th.

"During the period June 6th to 9th, inclusive, 20 bombing raids were carried out on the following objectives:—Thourout, Zeebrugge Lock Gates, Brugeoise works, Bruges Docks, Bruges Canal, Ghislies, Marialter aerodrome, St. Denis Westrem aerodrome, Oostacker aerodrome. In all 14 tons of bombs were dropped and fires were started at Bruges Docks, Marialter aerodrome, and St. Denis Westrem aerodrome. Four fires and two explosions were caused in Eastern Bassin at Bruges Docks. Two direct hits were observed on the Mole, Zeebrugge. Heavy anti-aircraft fire was experienced, and attacks were made by enemy aircraft which were driven off. All our machines returned. Many offensive patrols have been carried out."

"In home waters during the same period, numerous anti-submarine, hostile aircraft, and escort patrols were carried out by seaplanes, airships, and aeroplanes. Submarines were sighted and bombed, enemy mines located and floating mines sunk. On occasions while on patrol, single British machines have been attacked by enemy formations. In one case a stray bullet shot away a control and the British machine was forced to alight. The crew were subsequently rescued by another British seaplane, which had been sent to search for them. In another instance our machine—after being disabled—was sunk by hostile machine-gun fire, the crew being rescued by our surface craft."

General Headquarters, June 11th.

"On the 10th inst., in spite of cloudy weather, our airmen on the French battle front worked early and late, dropping eight tons of bombs on enemy troops and transport, ammunition dumps, guns, and trenches. Direct hits were obtained on the railway at Roye-sur-Matz, and on concentrations of infantry in the triangle Montdidier-Riquebourg-Roye. Flying low, our machines attacked with machine-gun fire every target that offered itself along the roads behind the fighting line, and an immense number of rounds were fired from the air with good effect. In this area we shot down six enemy aeroplanes and drove seven down out of control, ourselves losing five machines. On the British front there was little aerial activity. One German aeroplane was destroyed and one driven down out of control. We lost two machines. During the night 10th-11th inst. we dropped 7 tons of bombs on Cambrai and Bapaume. All our night bombers returned safely."

General Headquarters, June 12th.

"On the 11th inst. British aeroplanes assisted the French counter-attack on the western portion of the Noyon battle front by special patrols sent out to deal with German machines, as well as by vigorous and constant bombing of the enemy's trenches, gun positions, and communications. Heavy machine-gun fire was directed from a low altitude upon hostile troops and transport throughout the same area. Ten German aeroplanes were destroyed by us during these operations, and four more were driven down out of control. We lost three machines. Two of our machines reported yesterday as missing have now returned. Since the German attack began in the Noyon sector on June 9th our squadrons co-operating with the French have dropped 21 tons of bombs and accounted for 29 enemy machines. On the British front our airmen and balloons carried on as usual the direction of our artillery fire; some useful aerial reconnaissance and photography were also accomplished. On this front two hostile machines were shot down and two others driven down out of control. One of our machines is missing. The total weight of bombs dropped by us on June 11th, including those dropped beyond the French battle lines, amounted to 14 tons. On the night of June 11th-12th our night bombing machines heavily attacked the railway at Cambrai and billets at Frémicourt (on the Bapaume-Cambrai road), dropping 4 tons of bombs without loss."

War Office, June 12th.

"Italian Front.—Since my last report the Royal Air Force have destroyed 21 enemy aeroplanes. Four of our machines have failed to return."

Admiralty, June 13th.

"During the period June 10th to 12th inclusive operations by Air Force contingents have to some extent been attended by unfavourable weather. In addition to the usual patrols, however, bombing operations have been carried out during the day and night against Zeebrugge, Bruges Docks, and Ostend Docks. On these objectives in all 18 tons of bombs have been dropped. Two hits were observed on the Mole and bursts on seaplane shed at Zeebrugge; at Bruges fires were caused in Eastern Darse and hits observed in Brugeoise Works; bursts were observed at Bassin de la Marine and Gare Maritime at Ostend; clouds at times prevented observations. One enemy aircraft was destroyed, and one of our machines is missing. In home waters, in spite of the handicap of fog, numerous anti-submarine, hostile aircraft, and escort patrols were carried out by seaplanes, airships, and aeroplanes. Submarines have been sighted and bombed and enemy mines located on a number of occasions. In Mediterranean waters submarines have also been sighted and attacked, enemy mines located, and Allied and neutral shipping convoyed. During the same period aircraft attached to the British Aegean squadron have bombed aerodromes and enemy works at Drama and other places on the Bulgarian and Turkish coasts. Enemy formations which we met over the Dardanelles were attacked, and two of their fighter scouts were brought down in flames."

General Headquarters, June 13th.

"Our flying squadrons on the French battle front on the 12th inst. were chiefly engaged in offensive patrol work, seeking our German machines and fighting them wherever they were found. They destroyed 15 enemy aeroplanes, some of which went down in flames, while others broke in the air. One of our machines in this sector is missing. On the British front a good deal of aerial reconnaissance, photography, and artillery observation were carried out. We lost two machines, and destroyed five German machines. Two other hostile machines were driven down out of control, and a German observation balloon was brought down in flames. Twenty-two tons of bombs were dropped by us during the day, the principal targets attacked being Don junction, the railways at Courtrai, Armentières, and Chaumes, the dump at Bapaume, and Bruges docks. The weather at night was unsuitable for flying."

"On the afternoon of the 12th inst. two successful raids were carried out by our squadrons against the Metz-Sablon railway station and sidings. Many heavy bombs were dropped. On the 13th inst. one squadron of our aeroplanes

attacked the station at Trèves, another dropped a ton of bombs on the factories and station at Dillingen. At the same time the factories and station at Hagendingen were subjected to attack. At Dillingen direct hits were observed on two furnaces. Successful long-distance photographic reconnaissances were carried out by our machines. In the course of attacks made by the enemy on our bombing machines, one hostile aeroplane was destroyed and two others were driven down. One of our machines is missing."

General Headquarters, June 14th.

"On June 13th low clouds and poor visibility impeded work in the air, but our machines took advantage of spells of clearer weather to observe for artillery fire, and to carry out numerous patrols and reconnaissances. Nine tons of bombs were dropped by us on Zeebrugge Mole, Armentières and Comines stations, and on targets in the French battle area. Ten hostile aeroplanes were destroyed during the day, and two driven down out of control. A German balloon was brought down in flames. We lost five machines. Heavy mists prevented flying at night."

General Headquarters, June 15th.

"Flying on the 14th inst. was much limited by low clouds and high wind. Two enemy aeroplanes were driven down out of control. We lost two machines."

War Office, June 15th.

"Salonica.—On June 12th four hostile aeroplanes were brought down near Miletovo (in the Vardar Valley 13 miles behind the enemy's line) during a combat with our scouts. Three were observed to crash in flames. All our machines returned safely."

War Office, June 15th.

"Italian Front.—For several days no flying has been possible owing to weather conditions, and to-day was also unsuitable for flying except in the very early morning. During this period seven hostile machines were destroyed and two balloons brought down in flames."

"During the afternoon our flying squadrons have been continually engaged in machine-gunning and bombing enemy bridges and transport on the Lower Piave, doing great damage from low altitudes."

Air Ministry, June 17th.

"The following bombing operations into Germany were carried out by the Independent Force, R.A.F., from June 6th to June 11th, both dates inclusive: The railway station and sidings of Thionville were attacked no fewer than four times; several direct hits were observed on the station, and an explosion was seen to take place near the Carlsbütte Works. At Metz-Sablon, which was twice attacked, a train received a direct hit and was wrecked. In all, some 6 tons of bombs were dropped on these objectives, and a large number of rounds was fired from machine-guns at low altitudes. Attacks were also delivered against the railway sidings at Karthaus and railways and munition factories at Hagendingen and Dillingen, some 3½ tons of bombs being dropped with good results. From all the expeditions all our machines returned in safety."

French.

Paris, June 9th.

"Salonica.—French airmen bombarded the region of Kunsko."

Paris, June 10th.

"During the day of June 9th our chasing squadrons destroyed, or put out of action, 11 enemy aeroplanes. Our bombing aeroplanes, which were able to intervene at once in the battle, attacked unceasingly the enemy's troops massed behind the front of attack. During the day of the 9th and the night following, in spite of the bad weather, 18 tons of projectiles were dropped on points of assembly, convoys, and railway stations, especially Roye railway station, where a great fire, followed by an explosion, was observed. During the month of May, 28 German aeroplanes were shot down by anti-aircraft fire, three of them by night. In addition, 20 other machines, driven out of control by our fire, were compelled to break off their mission."

"Salonica.—In the course of Sunday's air fighting one enemy aeroplane was brought down in its own lines."

Paris, June 11th.

"Our daylight bombarding squadrons continued their operations during the day of June 10th, notwithstanding the bad weather. On the most exposed points of the battlefield some groups of machines, flying at a low altitude, dropped their bombs on the enemy concentrations, dispersing the reinforcing troops, and causing them considerable losses. Certain crews made several trips in the one day. Eight tons of explosives were utilised in this manner and yielded the best results. During the night of June 10th-11th the bombardment of the rear zone of the enemy front was actively continued. Our squadrons dropped 20 tons of bombs on convoys, cantonments, and railway stations. Two munition depôts were exploded, the one situated in the Chaumes region and the other in the Soissons region. A fire was also reported in the railway station at Fismes. During the day of June 10th four enemy machines and a German captive balloon were brought down by our chasers."

Paris, June 12th.

"Our day bombing squadrons continued their operations yesterday, participating with their customary boldness in the counter-attack launched by us on the front Montdidier-St. Maur. They attacked with bombs the enemy divisions which were coming up to meet the shock of our troops against their right wing. Before this attack the enemy units were compelled to scatter, leaving corpses on the ground. Convoys were bottled up, and batteries of heavy artillery in full blast were abandoned by the gunners and ceased fire. Moreover, a convoy caught fire, and a huge fire broke out in Ressons-sur-Matz, where there was a large concentration of enemy troops. Altogether 26 tons of projectiles were dropped with excellent results. During the night our bombing crews dropped 13 tons of explosives on the stations of the enemy zone, particularly in the region of Nesles, Roye, and Ressons-sur-Matz. Fresh fires were observed at the places bombed. On the 11th our chasing crews brought down or put out of action 13 German machines."

Paris, June 13th.

"On Wednesday our bombing squadrons dropped on the battle zone 16 tons of projectiles and 25 tons during the night of June 12th-13th. Cantonments, convoys, troops on the march, and the rear of the enemy front were bombarded, as well as the villages of Ressons-sur-Matz, Riquebourg, Orvillers-Sorel, and the regions of Roye and Guignicourt. Several outbreaks of fire were observed. The same day seven enemy machines were brought down and nine put out of action. During the first week of the month of June 13 enemy machines were brought down by our anti-aircraft defence service."

Paris, June 14th.

"On June 13th our chasing aeroplanes shot down five German machines and two captive balloons. Seven other enemy machines were put out of action. During the night of June 13th-14th our bombing aeroplanes dropped 19 tons of projectiles on the establishments, railway stations, and cantonments in the enemy zone, causing great damage."

Italian.

Rome, June 9th.

"Our airships and aeroplanes bombarded railway stations, aviation camps, and enemy hutments, and attacked troops in movements with machine-gun fire. At Mattarello station (about 5 miles south of Trent) the explosion of a large ammunition dump was observed. During the air fighting in the day five enemy machines were brought down."

Rome, June 10th.

"Our aeroplanes dropped 4 tons of bombs on enemy depôts and communication junctions. Five enemy aeroplanes were brought down during air fighting."

Rome, June 11th.

"Five enemy aeroplanes were brought down in air fighting. At dawn yesterday a squadron of Austrian seaplanes flew over Brindisi, dropping several bombs. No damage was done to war material, but several persons were killed or wounded. Our anti-aircraft guns and chaser planes soon compelled the Austrian squadron to withdraw. The loss of three enemy machines is reported. The enemy airmen were taken prisoners."

"The same day British aeroplanes bombarded the aerodrome and hangars at Cattaro. Italian aeroplanes in two successive attacks bombarded military establishments at Durazzo. At Cattaro a steamer moored near the aerodrome was observed to be on fire. All the British and Italian machines returned undamaged to their bases."

Rome, June 13th.

"Bad weather limited the activity of the reconnaissance parties and aviation."

Rome, June 14th.

"One enemy aeroplane was brought down. One of our airships in difficult atmospheric conditions carried out effective bombardment operations."

U.S.A.

Paris, June 13th.

"Last night, our airmen bombed with good effect the station of Dommary-Baroncourt, north-west of Metz. All our machines have returned."

Paris, June 14th.

"Yesterday our airmen shot down two hostile machines."

Paris, June 15th.

Paris, June 16th.

Paris, June 17th.

Paris, June 18th.

Paris, June 19th.

Paris, June 20th.

Paris, June 21st.

Paris, June 22nd.

Paris, June 23rd.

Paris, June 24th.

Paris, June 25th.

Paris, June 26th.

Paris, June 27th.

Paris, June 28th.

Paris, June 29th.

Paris, June 30th.

Fifty-Five Raids in a Month.

THE following table shows the number of German towns raided by British airmen during May, together with the military objectives reached, and the number of times each town was raided:—

Place.	Military Objectives.	No. of times raided.
Bensdorf ..	Station and sidings ..	2
Coblentz ..	Station and barracks ..	1
Cologne ..	Stations, factories, barracks ..	1
Courcelles ..	Station and sidings ..	2
Diedenhofen ..	Station and sidings ..	14
Esch ..	Station and sidings ..	1
Hagendingen ..	Railways and factories ..	1
Karlsruhe ..	Station and workshops ..	1
Karthaus ..	Station and bridges ..	3
Kreuzwald ..	Electric power station ..	4
Landau ..	Barracks, station, sidings, gasworks ..	2
Mannheim ..	Chemical factory ..	3
Metz ..	Stations and sidings ..	2
Metz-Sablon ..	Stations, sidings, railway triangle ..	15
Saarbrücken ..	Factories, sidings, station ..	2
Spittel ..	Station ..	1

Back from Germany.

A MESSAGE from the Hague, on June 14th, states that the following British officer prisoners of war have arrived in Holland for internment:—

- Lieut. H. Clements-Finnerty, 17th Lancers, att'd. R.A.F.
- Lieut. E. R. Farmer, Notts. Yeo., att'd. R.A.F.
- Lieut. L. N. Graham, W. Yorks Regt., att'd. R.A.F.
- Lieut. H. O. Long, R.E. and R.A.F.
- Capt. J. H. F. McEwen, Cameron Highrs., att'd. R.A.F.
- Lieut. R. W. Nichol, R.A.F.
- 2nd Lieut. J. G. Robertson, R.A.F.
- 2nd Lieut. C. I. Sandys Thomas, R.A.F.

Shot While Escaping.

INFORMATION received in Amsterdam shows that the two British officers who were shot dead while attempting to escape from Bad Colberg Camp on Whit Monday were Lieut. Medlicott, R.F.C., and Capt. J. S. Walter, M.C., R.W. Surreys. Lieut. Medlicott is said to have escaped from every camp where he was confined, but in each case was recaptured. On account of his persistent endeavours to escape Lieut. Medlicott was considered by the German authorities to be "one of the most dangerous characters in the country." Twice before Capt. Walter had been his companion in attempts at escape.

Bonuses to Aircraft Workers.

THE following is a recent decision of the Committee on Production on a case referred to them by the Ministry of Labour:—

AIRCRAFT INDUSTRY.—Painters, polishers, dopers and upholsterers, and semi-skilled and unskilled workers engaged in the manufacture and repair of aeroplanes and seaplanes, directly on such manufacture or repair, are to receive in the case of plain time workers a bonus of 12½ per cent. on earnings, and, in the case of pieceworkers and men working at augmented time rates fixed in lieu of piece rates or by reference to results or to output of work, a bonus of 7½ per cent. on earnings (excluding travelling time, outworking, or similar allowances) from the first pay day in January, 1918.

The men concerned employed in aircraft establishments (which expression includes any manufacturing establishment engaged wholly on the manufacture or repair of aeroplanes or seaplanes or of components or parts thereof or any workshops belonging to a composite establishment in which such work is exclusively carried on) are to receive an advance of 5s.

Paris, June 15th.

"Our airmen bombed the station and railway tracks at Conflans (north-west of Metz). A number of direct hits were made. All of our machines returned."

German.

Berlin, June 9th.

Lieutenant Kroll gained his 24th and 25th, and Sergt.-Major Rumeys his 23rd aerial victories."

Berlin, June 10th.

"Thirty-seven aeroplanes and six captive balloons were shot down yesterday. Lieut. Kroll obtained his 27th and 28th victories, Lieut. Udet his 27th, and Lieut. Kirstein his 23rd victory in the air."

Berlin, June 13th.

"In the two last days 35 enemy aeroplanes were shot down."

"Capt. Berthold and Lieut. Meckhoff obtained their 33rd aerial victory, 1st Lieut. Schleich his 29th and 30th, Lieut. Veltjens his 20th and 21st, and Capt. Reinhardt his 20th."

Berlin, June 14th.

"Twenty-eight enemy aeroplanes were shot down yesterday. Capt. Berthold obtained his 34th aerial victory, Lieut. Udet his 29th, and 1st Lieut. Lörzer his 25th. The losses of the enemy's Air Forces on the German front for the month of May amount to 23 captive balloons and 413 aeroplanes, 223 of which fell behind our lines and the rest on the other side of the enemy's positions. We have lost in the fighting 180 aeroplanes and 28 captive balloons."

a week from first pay in January, 1918, any advances given since November 1st, 1917, to merge in the advance of 5s. a week now awarded. Having regard to the diversity which exists in respect of wages in establishments other than those indicated above, the Committee on Production make no general order as to an advance of wages to men employed on aircraft alongside other work in such other establishments. Any necessary adjustments required in these establishments are to be discussed by the parties concerned.

Gotha Souvenirs Not Reported.

At a metropolitan police court on June 13th, Charlotte Wall, married, was summoned for failing to notify the finding of an article from an enemy aircraft.

It was stated that two police officers on May 26th called on the defendant, who produced a gauge, saying: "I thought that it was of little value." Her garden adjoined the field in which an enemy aircraft fell.

An Army captain stated that the portion found was a height gauge of a German aeroplane. It was made at Stuttgart, and bore in German: "An altitude meter for aeroplanes."

Mr. W. J. Grubbe (the magistrate) said that if it had not been tampered with the instrument would in all probability have registered the height the machine had reached.

Witness replied that was so, and that it was of great value to the authorities. Replying to the magistrate, he added that this machine was brought down by gunfire.

Defendant pleaded not guilty.

Her husband, in uniform, said he was a stoker in the Navy. Receiving a telegram that his place was smashed up he came home on leave on May 20th. Looking round he picked up the gauge in his back garden. A gentleman from the Town Hall came to see the damage done, and witness gave him a piece for a souvenir, and showed him the gauge. The gentleman reported it to the police. On the Sunday morning witness gave the instrument to the police.

The magistrate said the woman was liable to a fine of £100, and in addition six months with hard labour. She would be fined 20s., or thirty-one days.

A Raid on Paris.

FOR the first time since June 6th, aeroplanes visited Paris shortly before midnight on June 15th and dropped bombs on the capital, says the *Morning Post* correspondent. The presence above the city of a squadron of French machines about six o'clock in the evening was interpreted by many people as a warning. Suspicious circumstances had been observed in aerodromes on the other side of the line, and this, coupled with the fact that the sky was unusually clear and starry, prepared everyone for the bombardment which occurred. Several groups of enemy machines crossed the French lines soon after 11.30, and a few minutes later the alarm was given all over the city. Thanks to an effective defence most of the invaders were driven off by an unusually heavy barrage fire, but at least one machine succeeded in getting through and caused a certain amount of damage to property, while there were several cases of personal injury, some of which proved fatal.

Rammed in Mid-Air.

AN extraordinary incident is recorded by Reuter's correspondent with the American Army as having occurred on June 3rd. He says that when an American aviator was engaged "in close conflict with his opponent, his gun jammed as he was swinging round to get a shot, whereupon he charged, ramming the German machine just in front of the rudder, which he sheared off, the machine falling. With an almost useless engine, an *aileron* badly damaged, and one wing nearly in ribbons, the airman was able to reach the aerodrome and make a decent landing." We hardly think, however, "ramming" in the air is likely to be very popular.

TRADE PARLIAMENTS AND THEIR WORK.

By ERNEST J. P. BENN, Chairman Industrial Reconstruction Council.

IX.—STATISTICS.

SCIENTIFIC research as a subject which should be taken in hand by every trade is fairly well understood, and the day is past when it is necessary to indulge in any very elaborate arguments and to prove that our industries are in need of a closer acquaintance with science. Statistical research is every bit as important, but this branch of co-operative action is not so well understood. When Trade Parliaments are the rule and trades have got into the habit of working together and begun to see the advantages which arise from a close study of the interests of the whole as well as their individual interests, one of the most engrossing topics of discussion will be this matter of statistical research. Twenty-five years ago the average English business man regarded the chartered accountant as an up-to-date fad that might be useful to the company promoter or the Yankee, but that he was far too busy to bother with. The chartered accountant was, in fact, classed with the telephone and the typewriter as a matter below the serious attention of the manufacturer, who was busy with what he then regarded as the more serious side of trade and industry. We have lived to see that folly disappear and the day arrive when even the smallest tradesman is not content unless his annual accounts are promptly produced and properly certified. The advance in industry in the lifetime of the last two generations is in no small measure due to a greater appreciation of the value of accurate accountancy, but statistics go far beyond what is properly called accountancy. The modern business possesses not only a counting-house which is charged with the function of recording completed transactions in £ s. d., but it possesses also various statistical systems which have nothing to do with the counting-house proper. Stock records, costing systems, comparative figures, charts showing increases and decreases, every item of expenditure or revenue worked out in percentages, overhead charges reduced to a part of the cost of every article turned out, and so on. In fact, the present generation has advantages from an intimate knowledge of the exact workings of individual businesses which have been the principal cause of the increase of production and the decrease of price, which has been the tendency for years past. The next move in this important evolutionary process is to extend the knowledge thus acquired from individual businesses to whole trades. This step is a natural one, and, indeed, has already been taken to some extent in some of our more progressive industries.

The bedstead trade was probably the first to understand the value of statistical research. The first bedstead combine was built upon a costing system which was the result of the combined wisdom of all its members. The immediate result of the introduction of that system was the rapid reduction in the cost of bedsteads. Most readers can well remember the old iron bed with solid sides and ends, and weighing some hundredweights. When the bedstead makers began to get out figures showing the amount of metal in each of their patterns, their attention was turned to the waste of material in this respect, and the result was the utilisation of angle iron instead of solid bars, and much stronger beds, containing only a fraction of the metal, were immediately put upon the market.

Printing is another trade in which a co-operative costing system has been introduced. The Master Printers' Association now publishes most detailed schedules from which any printer can ascertain what are his true costs, or, at all events, what they should be. Statistical research does not, however, stop at the costing system. Dr. Ripper, the Vice-Chancellor of the University of Sheffield, has published a diagram which shows in a very graphic manner the advantages of statistical research by whole trades. He presupposes an article which is made by two firms which involves four processes, and which is put upon the market at a sovereign. Under the old competitive system both firms were convinced that they were producing this article in the most economical way because both were able to market it at the same price, but enquiry shows that the first firm had a very economical way of performing the first and third processes and a very extravagant way of doing the second and fourth processes, while the second firm had discovered quick ways of accomplishing the second and fourth, and were entirely out of date in their methods with regard to the first and third. The result of the enquiry was that each firm adopted the best two methods of the other two, and the article, instead of costing a sovereign, was promptly marketed at 12s. 6d.

This was a very simple case in which two firms were involved and four processes; but, as with most articles of

commerce there are large numbers of firms, and perhaps forty processes, the possibilities of economy by means of comparative statistics are very much larger than is generally realised. The National Pottery Council, the first of the Joint Standing Industrial Councils under the Whitley Report, has adopted among its objects the preparation of statistics as to costs, markets, materials, stocks, wages, and average profits, and it is hoped that each Trade Parliament will undertake similar duties.

In touching upon this subject it is very necessary to emphasise, for the satisfaction of the timid, that the introduction of any such system of statistical research would not in any way interfere with the liberties or the secrets of individuals. The suggestion is that a chartered accountant should be appointed as a sort of auditor-general to the trade, and that he should collect his information in much the same way that the income tax surveyor collects his figures to-day. The chartered accountant could, of course, be trusted to treat the figures with professional secrecy, and he would publish from month to month the averages which he was thus able to work out. The result would be that the trade would discover that the materials used in a given line averaged, say, 40 per cent. of the total cost. The manufacturer whose own figures showed 45 per cent. would know at once not only that he was 5 per cent. above the average, but as the average was the result of his own figures and others, that somebody was doing even better than 40 per cent. This would be the only stimulus required to make that manufacturer look into matters more closely, and general economy would be the result.

There is, as I have said, no end to the possibilities of trade statistics. Information as to stocks in different parts of the country would probably disclose the fact that certain districts were regularly overstocked with certain goods and explain the peculiar variations that occur in prices in different localities. When the auditor-general for a trade had exhausted the possibilities for statistical research at home he could begin to collect information with regard to the same trade abroad. Traders might in this way secure the inestimable advantages that have accrued to the pottery trade in America as a result of the detailed comparison that has been made between the figures of that industry in England, Germany, and the States.

Statistical research must be looked to to provide the bulk of the economies out of which the increased wages, for which labour is rightly asking, must come. The war has done a great deal to teach us the value of statistics in business. Wherever Government controls have been established the most elaborate methods of statistics and comparison have been introduced, and traders have become accustomed to supply information at the bidding of Government Departments—information which has often been secured for totally different reasons from those which will apply in the future. But the habit having been formed, and some of its advantages having been noted, it is now up to the trades themselves to arrange the preparation of proper statistics for their own benefit. The effect of statistical research upon what is known as the Labour Question must be most beneficial. It will, in many trades, entirely dispose of all the rubbish that is talked about excessive profits. Syndicalistic agitators have a way of selecting some firm that is more than usually successful, and perhaps paying a high rate of interest upon its capital, and holding up this firm as an example of the average profits of employers. Employers generally know how unfair this practice is and how systematically it is adopted. There are very few trades which, on the average, produce more than an adequate return upon the capital invested in them, and the agitator of the future, when proper statistics are prepared, will have to change the basis of his argument because figures to answer his principal charges will be available. If the trade union demand that the rate of wages shall be such that the average worker shall earn a decent living is a just one, then it is equally just to ask that the rate of profit shall be measured, not by the brilliant exception, but by the average employer.

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PUBLICATIONS RECEIVED.

Winged Warfare. By Major W. A. Bishop, V.C., D.S.O., M.C. London: Hodder and Stoughton. Price 6s. net.

Carburation in Theory and Practice. By Robert W. A. Brewer. London: Crosby Lockwood and Son. Price 12s. 6d. net.

SIDE-WINDS.

THE sports recently held by Messrs. Humber, Ltd., on their recreation ground at Coventry resulted in £520 being added to the coffers of the Coventry and North Warwick Hospital—a result of which one and all may be proud. In this connection a printer's error did great injustice to the efforts of those in charge of the "home-made" aeroplane, which actually raised £14, and not the £1 which the printer credited them with last week.

OPPORTUNITIES for securing bargains are few and far between now, so it behoves those who wish to replenish their wardrobes at a minimum of cost not to miss anything which is going. The annual summer sale of Messrs. Robinson and Cleaver, at their Linen Hall in Regent Street, commences on Monday next, and among the items in men's wear which are marked down in price are some attractive lines in pyjamas, shirts (khaki and otherwise), underwear and hose. There are also one or two things such as trench coats and tunics which should specially appeal to those in the services.

ON the 14th inst., Colonel Sir Charles C. Wakefield, Bart., was installed Master of the Worshipful Company of Gardeners, and in the course of his speech, the popular ex-Lord Mayor of London stated that it would be his ambition during his tenure of office for becoming responsible for the founding and maintenance of at least one colony of small holdings to be worked by ex-soldiers and ex-sailors. He would do all in his power to assist, and would esteem it an honour to be allowed to present a sufficient number of acres of suitable land to serve as a nucleus of such a colony.

THE success of "Aircraft Supplies," the house organ of the Aircraft Supplies Co., Ltd., has at last led to drastic steps being necessary to curtail the circulation owing to the restrictions on paper. Three times the mailing list has been combed out, and now it has been decided to restrict the circulation to those who subscribe for a year, commencing from the issue dated July 30th. The next few issues will contain a subscription form and those who find the publication of use to them—and who does not?—should make a point of filling in the form and returning it to the Ascol House, 125, Long Acre, London, W.C. 2.

COMPANY MATTERS.

A. W. Gamage, Ltd.

AT the annual meeting Mr. A. W. Gamage, chairman and governor, who presided, said that although the year was a record one, they had now more than eclipsed it by a very long stride. The increase of business to date in the current year was almost as much as the increase during the whole of the year under review. The directors had considered many profit-sharing schemes, but had come to the conclusion that, for the time being, the matter should stand in abeyance. They proposed that the employees should participate in the prosperity of the business by means of a bonus. That was the 21st birthday of the company and the 40th anniversary of the business.

ON the motion of the chairman, seconded by Mr. J. Dunn, a resolution was passed to confirm the dividends on the preference shares paid in September, 1917, and January, 1918, and to pay a dividend on the ordinary shares at the rate of 8 per cent. per annum, less tax.

A resolution was moved by Mr. J. S. Parker, and unanimously carried, "That this meeting, being of opinion that Mr. A. W. Gamage has made extraordinary and successful exertions on behalf of the company during the year ended January 31st, 1918, he is hereby voted for that year the clear additional remuneration of £1,000, and that such sum be paid to him accordingly."

Fellows Magneto Co., Ltd.

AT the first annual general meeting, Mr. V. L. Fellows, who presided, said: "The past year has been one of unusual difficulty, due to war-time delays, the shortage of skilled labour and the general disorganisation of industry. The magneto output was commenced in April, 1917, it having been found necessary greatly to extend the factory, which was purchased in 1916. In view of the rapid development of the business, negotiations were now in progress with the authorities to enable them to again increase their present factory accommodation."

THE directors recommended the payment of a final dividend of 5½ per cent. on the preferred shares, making 9½ per cent. to December 31st, 1917, and a dividend of 15 per cent. on the ordinary shares, leaving a balance to be carried forward of £1,181. The directors, although holding the greater proportion of the ordinary capital, consider it advisable to write down in a substantial manner the preliminary expenses

and the plant and machinery, rather than to distribute a higher dividend in this the first year of the company's working.

THE paid-up capital of the company is £66,533. This, compared with the present size of the company's undertakings, was insufficient for requirements. The proposed new extensions of the factory with the necessary machinery, are estimated to require a further sum of £40,000, to which had to be added the additional working capital and the moneys required for the repayment of their Government loans. The small balance of present capital now available for issue had been offered to the shareholders and had been over-applied for, but they would also welcome applications from members of the public who might wish to take an interest in the company. Provision would also be made to reserve for such applicants a participation in their forthcoming issue. All enquiries in connection with these matters should be addressed to 21, St. James's Street, London, S.W. 1.

THE motion was then adopted, the dividends recommended were declared, and the retiring director, Mr. Stanley Fellows, was re-elected.

NEW COMPANY REGISTERED.

BRITISH ENGINEERING CO. (LONDON), LTD.—Capital £2,000, in 1,900 10 per cent. ordinary shares of £1 each, and 2,000 deferred shares of 1s. each. Metal founders, mechanical, aero, civil, &c., engineers, aeroplane and part manufacturers, motor engine and body builders, &c. First directors:—R. Gill and S. B. Saunders.

IMPORTS AND EXPORTS, 1917-1918.

AEROPLANES, airships, balloons, and parts thereof (not shown separately before 1910). For 1910 and 1911 figures see "FLIGHT" for January 25th, 1912; for 1912 and 1913, see "FLIGHT" for January 17th, 1914; for 1914, see "FLIGHT" for January 15th, 1915; for 1915, see "FLIGHT" for January 13th, 1916; for 1916, see "FLIGHT" for January 11th, 1917; and for 1917, see "FLIGHT" for January 24th, 1918.

	Imports.		Exports.		Re-Exportation.	
	1917.	1918.	1917.	1918.	1917.	1918.
January...	10,842	49,402	67,033	24,765	—	—
February	9,479	51,941	26,512	13,545	6	—
March...	11,158	47,930	58,517	11,451	—	1,000
April...	21,141	33,342	21,151	10,815	—	—
May...	6,877	942,866	59,713	67,224	—	—
	59,497	1,125,481	232,926	127,800	6	1,000

Aeronautical Patents Published.

Applied for in 1917.

The numbers in brackets are those under which the Specifications will be printed and abridged, &c.
Published June 20th, 1918.

- 5,605. J. J. KERR and J. RICHARDSON. Machine for manufacture of propellers for aircraft. (115,869.)
10,747. H. PHILLIPS. Aerofolios. (115,968.)

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IN order that "FLIGHT" may continue to be published at the usual time, it is now necessary to close for Press earlier. All Advertisement Copy and Blocks must be delivered at the Offices of "FLIGHT," 36, Great Queen Street, Kingsway, W.C. 2, not later than 12 o'clock on Saturday in each week for the following week's issue.

If you require anything pertaining to aviation, study "FLIGHT'S" Buyers' Guide and Trade Directory, which appears in our advertisement pages each week (see pages lii, liii, and liv).

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